

Virginia  
Wildlife

SEPTEMBER 1970

VOLUME XXXI / NUMBER 9

20 CENTS



PRICED H. RING

# Virginia Wildlife

*Dedicated to the Conservation of  
Virginia's Wildlife and Related Natural Resources  
and to the Betterment of  
Outdoor Recreation in Virginia*

Published by VIRGINIA COMMISSION OF GAME AND INLAND FISHERIES, Richmond, Virginia 23230



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**COVER:** The handsome red-shouldered hawk is one of our two most abundant large-winged, broad-tailed, soaring hawks. Unlike his slightly larger relative, the red-tailed hawk, which prefers high upland woods, the red-shouldered hawk is more partial to bottomlands and swampy forests. Our artist: Peter H. Ring, Ashland.

**SUBSCRIPTIONS:** One year, \$2.00; three years, \$5.00. Give check or money order, made payable to the Treasurer of Virginia, to local game commission employee or send to Commission of Game and Inland Fisheries, P. O. Box 11104, Richmond, Virginia 23230.

VIRGINIA WILDLIFE is published monthly at Richmond, Virginia, by the Commission of Game and Inland Fisheries, 4010 W. Broad Street. All magazine subscriptions, change of address notices, and inquiries should be sent to Box 11104, Richmond, Va. 23230. The editorial office gratefully receives for publication news items, articles, photographs, and sketches of good quality which deal with Virginia's soils, water, forests, and wildlife. The Commission assumes no responsibility for unsolicited manuscripts and illustrative material. Credit is given on material published. Permission to reprint text material is granted provided credit is given the Virginia Commission of Game and Inland Fisheries and VIRGINIA WILDLIFE. Clearances must be made with photographers or artists to reproduce illustrations.

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## EDITORIAL

### Scratching the Itch

**F**OR the outdoorsman, fall probably is the greatest season of them all.

It has been said that spring fever makes one want to lie in the sun, and summer fever makes one want to lie in the shade. But fall fever makes one want to be up and doing something, almost anything—up and going somewhere, almost anywhere—so long as it is out of doors, and the day is bright, and the feel and smell of autumn are in the air.

For those who enjoy hunting the symptoms of fall fever are especially acute, and as hard to resist as the urge to scratch an especially agonizing itch. Unfortunately, too many of us who have succumbed to the lassitude of spring and summer are in no condition for a sudden and unrestrained response to the urgings of fall.

By happenstance rather than by design, early fall hunting seasons do provide some opportunity for a “warm up” and conditioning period before the onset of the most rigorous and demanding varieties of outdoor sports. Dove shooting at its best is enjoyed from a relatively fixed position in a wisp of cover located near the edge of a harvested grain field or along lines of flight between such a field and the birds’ loafing places in nearby woodlands, while early squirrel hunting at its best involves little more exertion than hunkering down as inconspicuously as possible in a stand of mature hickory nut trees. The more strenuous part of sora and clapper rail hunting is performed by the boat pusher rather than the shooter. None of these early season fall sports compares with deer or grouse hunting, or even with quail or rabbit hunting, so far as requirements for physical exertion and stamina are concerned.

The outdoorsman who has spent most of the past nine or ten months indoors is likely to need all the “warm up” and conditioning he can get between now and November if he is to enjoy *safely* the more strenuous kinds of hunting that are yet to come. His muscles, his lungs, and his heart need to be conditioned gradually, or he will find himself a prime candidate for physical injury or potentially fatal heart attack. And even if he avoids such serious consequences of his lack of physical fitness he will still find himself so easily exhausted that hunting will quickly become more drudgery than fun.

Early symptoms of fall fever, together with the early hunting seasons, provide both the incentive and the opportunity to take the first steps toward regaining top physical fitness. Not only will this add to safety and enjoyment later on, but the very process of getting the old body back into prime shape will be a rewarding experience in itself.

So go ahead. Treat the symptoms of fall fever. Scratch the itch! You will feel better, and be glad you did. Just don’t try to do it all at once!—J. F. Mc.

## LETTERS

### Threat Seen on Eastern Shore

I AM very deeply concerned about a threat to the Chincoteague National Wildlife Refuge. The refuge lies a short distance from the island of Chincoteague, with Piney Island lying between. A development is proposed that would destroy the saltwater marsh which forms the southern part of Piney Island, adjacent to the bridge over Assateague channel. A developer plans to dredge three or possibly four canals, dump the silt onto the marsh, and divide the land into 100-foot-square building lots.

The marsh is the home of hundreds of birds and other wildlife that would be displaced. Surely the water of Assateague Bay would be badly polluted. The present fine approach to the Wildlife Refuge and the Assateague National Seashore across southern Piney Island would be considerably degraded.

If this development is permitted, I can foresee more and more people in little cottages on stilts, more congestion and pollution, and a great danger to the clam and oyster industry of Chincoteague.

Marie L. Chappars  
Chincoteague

### Nest Boxes for Wood Ducks

MANY farm ponds provide habitat for raising wood ducks, as do beaver ponds, natural swamps, and marshes. Readers interested in raising wood ducks in Virginia might find the following information useful.

There are many designs for wood duck nest boxes, but I have found conflicting opinions as to how they should be erected. I base the following recommendations on four years of work with wood duck boxes:

1. Do not mount the boxes on trees, as trees are difficult to “coon proof.”

2. Have your nest boxes in place before February 15.

3. The supporting upright can be of metal or wood, but should be long enough to allow 36 inches between the surface of the water and the bottom of the box.

4. Be sure to attach a circular metal shield around the upright just below the box. I recommend a piece of sheet metal with 18 inch radius, shaped into a cone with “skirt” extending downward and supporting upright coming through the center.

5. Be sure there is some screen wire on the inside of the box extending from the bottom to the entrance hole. This provides the ducklings a means of climbing out after hatching.

This year I set out 11 wood duck nest boxes, of which 8 were situated in the shallow water around the edge of a farm pond and 3 were established in a beaver pond. All were used. However, seven nests were broken up by ‘coons. I use metal nest boxes mounted on steel rods or galvanized pipe, and have never had any ‘coon trouble before. But this year the ‘coons learned to climb the steel uprights. Next year all my boxes will be protected by metal shields on the uprights, much like the rat-guards used on ships’ hawser.

I am convinced that a duck nest box which is not protected from ‘coons is more of a liability than an asset, because the nest box lacks concealment.

Although I have read that it is not necessary to erect the boxes over water, I prefer to do so. The ducklings have a better chance of surviving in water, especially if there is some cover (rushes, bushes hanging over the edge of the pond, etc.) nearby.

A. C. R. Charlton  
Charlotte Court House

# THE DOVE EXPERIMENT CONTINUES

THE mourning dove is the most numerous and most important migratory game bird species in the United States, and possibly in the world.

As Virginia hunters take to the fields this month in quest of these swift and illusive targets, they will be participating in an historic experiment in dove management.\* The eighteen bird daily bag limit, now in its second consecutive year, is a part of it.

Probably never in the history of wildlife management has so much intensive cooperative research effort been centered on a single species over so wide a geographic area.

Since 1953, dove hunting regulations have been based upon a system developed to detect changes in spring breeding population levels. Generally, regulations were made more restrictive when the spring breeding population decreased, and were relaxed following a year to year increase in breeding pairs.

The purpose of regulation changes was to control hunting mortality. It was assumed that there is a direct correlation between relaxed hunting regulations and hunting mortality; that there is a negative correlation between hunting mortality and the following spring's breeding population; and that there is a further direct correlation between the number of breeding pairs and annual productivity of the species. But no one really knew whether these assumptions were correct—whether, or to what extent, these correlations actually exist.

It is possible, for example, that an increase in the bag limit does not increase the hunters' harvest materially. If it does, then it is still possible that this increase might be offset by a decrease in late winter natural mortality, and thus not result in a decreased spring breeding population. And if a spring breeding population decrease does occur, this might be overcome by greater productivity and rearing success. It has been noted with other species that a decreased density of breeding populations often results in a higher rate of productivity per parent. Could this be true with doves? Nobody knows, yet!

The present experiment is designed to determine just what does happen when the bag limit on doves is raised by fifty percent. How many more doves are bagged? What is the effect on spring breeding populations? And finally, what is the effect on succeeding fall populations and hunter harvests?

For so far ranging a species as the mourning dove, such a research project could not be undertaken by individual states. Nothing less than a cooperative effort by the federal government and the states of the entire Eastern Management Unit would suffice. And first it was necessary to get certain "baseline" data, against which changes resulting from regulation manipulations could be measured.

During the years 1967-68 and 1968-69, while the dove seasons and bag limits were held constant, data was assembled on hunter activity and harvests, spring breeding populations, fall ratio of young birds to old (a measure of productivity and rearing success), and mortality and survival as indicated by banding and band returns. With this baseline data in hand, last year's bag limit was raised from

the previous 12 to 18 birds per day, and it remains at 18 this year. Meanwhile, the collection of data on harvests, populations, productivity and survival continues.

Preliminary reports of the studies under way contain some interesting items, but it still is too early to draw even tentative conclusions.

It appears that there are about 200,000,000 doves in the Eastern Management Unit, of which hunters bag about 20,000,000. Obviously, a small percentage increase in the harvest would have an even smaller effect, if any at all, on survival.

The increase in the kill last year was only a fraction of the 50% increase in the bag limit. This was to be expected. A relatively few trips afield resulted in twelve birds killed



Photo by Leonard L. Rue III

The mourning dove is our most important migratory game bird. An intensive research effort now under way will lead to a better understanding of the role of hunting regulations as a dove management tool.

under the old limit, and even fewer actually yielded eighteen birds under the new regulations. In other words, the more liberal limit didn't increase anybody's bag of birds until he had shot the first twelve.

An overall decrease of breeding doves in the Eastern Management Unit was not observed last spring following the first season's experiment with the more liberal limit.

The results of this final year of our four year experiment will be watched with great interest by dove hunters and game biologists alike. What was the breeding success of the dove population in 1970? How will this fall's population and harvest stack up against those of prior years? And will next year's index of breeding pairs be up or down? Only time will tell. But by this time next year the managers will know a lot more than they have ever known before about the use of hunting regulations as a tool in dove management.

\*See also "The Dove Experiment 1967-71," by Jack V. Gwynn, *Virginia Wildlife*, September, 1969.



# Trout Fishing Second Time Around

By ED MYERS  
Martinsville



**W**HEN this year's trout season splashed open on a crisp April fourth, I set out—like a couple thousand other fishermen in my area—to catch my limit. I didn't. And, as a result, I became disillusioned with all the work of slipping and sliding over the rocks in Smith River in Henry County and did a lot of considering.

Fishing, I told myself, is a state of mind. Furthermore, it's an addiction. I gave up cigarettes, so why not trout fishing? I thought I had finally convinced myself: I would kick the habit.

Then came May 16. Smith River, and my second time around.

And I started smoking again.

I broke out well before daylight, anxious, with visions of 14 inch rainbows dancing in my head. Taking note of the morning, it seemed to carry a lick and a promise with just the right amount of early May chill that's always donated by April. Everything packed in advance, I pulled out from my home in Collinsville, just outside Martinsville's city limits, and pointed myself toward Fairystone State Park via State Route 57 west, catching the edge of Bassett and turning right just past Bassett onto an obscure little hardtop shown on maps as Route 666.

Route 666 winds past some of Bassett's furniture warehouses, crosses the Smith at one point, and climbs for about three miles.

Then you begin to fall.

Not like a sudden fall, of course, but the mile down might seem like a fall—winding curves, uneven hardtop and all. It's a hairy ride, and you need a purpose before traveling such back Virginia roads that never seem to exist until you point at a map and say, "Why, I didn't know that was there!"

But finally I reached bottom and crossed a bridge, turned left at the first dirt road, and followed parallel with the river for about a mile and a half. Stopping my car on a narrow curve, I backed into a well-used parking space, grabbed my rod and slipped into my boots.

The old excitement and habit was just as strong as ever and I splashed into the icy water feeling lucky. Not many anglers who have fished the clear, cold waters of the upper Smith will argue against its potential of being one of the best streams in Virginia. I've always felt rather good about having such a place right in my back door.

The reasons for that are perhaps about as simple as they come. First, the upper part of the Smith is the river's headwaters. Formed by the good flow of icy "bottom water" shooting through the locks of Philpott Dam, the river flows clearer and cleaner than a completely natural stream. Second, the upper Smith runs above all the pollution given off by furniture factories, towel mills, and illegal sewer lines. Let yourself get too far down the river and you wouldn't believe it was the same stretch of water.

After moving on out into the water, casting upstream at a slant and letting my spinner work its way with the natural flow of the current, it was only minutes before I had my first big rainbow on the line. I worked him around slowly, catching him under the gill with my index finger and plopping him into the creel. I never use a net. It takes something out of fishing as far as I'm concerned.

With that first one I felt good. The old spell was broken and I knew it. Although I knew I was just one angler out of a projected 125,000 that could be fishing Virginia waters, I felt as if they all might have taken their hats off and said a few words for me—just to keep me going!

But there was no stopping me now. Around 10 a.m. I had four good rainbows in the sack. I took a seat on a huge, flat rock in the middle of the stream and ate the peanut butter sandwich I had jammed inside my shirt that morning. Looking off to the left and catching the glint of the sun on water, I suddenly remembered that where I was sitting was the same place I had fished for two whole hours on opening day in April without getting the first strike.

That had been some morning for me. The hours passed at a snail's pace, for the fish seemed to avoid everything I threw them. I had tried worms, salmon eggs, a couple of streamers, a Panther Martin spinner, and an incredible little plug called "Rocky Jr." I had even tried dipping my baits into some mysterious, foul smelling liquid I ordered out of ALASKA magazine that boasted it could "drive fish wild."

But all it did for me on that cool April day was spill all over my shirt front, ruining my peanut butter sandwich. And that's how the day went. Other people caught fish and I didn't. It was around then that I felt the first pangs of self-consciousness and packed it out for home, swearing to do something else with my life.

But things were really looking up. There's an old cliché

Angler using the landing net. My father, naturally the greatest fisherman of all time, claimed net-users cheat themselves out of the most exciting experience in fishing—that rare moment when you wonder if you will get him to the bank.

Myers photos





Photo by Weekes

Stocking the Smith River in Henry County.

### Trout Fishing (From page 5)

which says, "old fishermen never die . . ." or something like that, and I suppose its hidden meaning had a lot to do with my being back after a previous disappointment. I stopped remembering April and slipped from the rock. I still had four fish to go.

It was then that the big brown hit. I guess almost every fisherman becomes a little stupefied when he gets a brown on his rod. Not only are they stocked in a low ratio to rainbow and brooks in Virginia streams, but they are probably one of the hardest freshwater fish around to catch. It's not that the brown isn't a voracious eater; they have been known to feed on anything from mice to pine cones. It's just that he is a crafty fish and almost impossible to catch after he has become a veteran to the stream he's in.

I worked him slowly because he showed signs of being a big one. He took plenty of line and I gave it to him. I wanted to work him upstream if I could because there was a clearing where I could bring him onto the bank. I must have worked him for quite awhile, but I finally got him in close. Easing myself to the sandy bank, I let him follow just enough to throw him up clear of the water. Finally I drew him out. He was a beauty, measuring 21 inches.

Catching the big brown drew people, as it always does, so I decided to quit. It was two in the afternoon and the clouds were threatening—May showers were on the way. Yet, I felt good and had no quarrel with Nature. I trudged out to the road, still within sight of my car and slipped out of my waders. The sun felt good as it dodged in and out between dark clouds. It had been good second time around.

Spots like the big bend along the upper Smith offer deep holes where the big ones lie, and some of the best clear water fly fishing to be found anywhere.

Weekes photo



# OCCOQUAN

By R. B. BELTON, JR.

Manassas

A SHADOW appeared beneath the water's surface. It moved silently, swift yet cautious, paused briefly; then, in a quick motion that produced a smacking, gurgling noise, the squirming white bug was doomed to serve as another morsel on the huge plate that is Occoquan Reservoir. The feeder was one of Occoquan's innumerable, insatiable bluegill; the bug was a white popper that would fool many voracious fish before the day was over.

My fishing partner was Major Russ Ray of Arlington; we had stolen out of our respective residences before dawn to meet at Petrola's Marina, on the north side of Occoquan Reservoir about four miles from the rustic little village of Occoquan, which sits quietly on Route 123 as traffic incessantly whizzes by on adjacent Interstate Route 95.

The only sounds that disturbed the serenity of the reservoir, which serves as Fairfax County's and part of eastern Prince William County's water supply, were the putt-putt of an occasional passing boat or the delightful SMACK as another bluegill ripped into the sham bug.

For a body of water so close to Washington, D. C. (25 miles) and the satellites surrounding it in Northern Virginia, Occoquan is very different from what one would expect. It is heavily fished, certainly, but mobbed? No, not at all, not even on weekends. And it is not plagued in the Petrola's Marina area by large boats, as motors in excess of 10 horsepower are not allowed. We have observed only johnboats during our expeditions into its many coves, which offer not only good fishing but serve to break up the 1700 acre impoundment into many small, private domains. Also, there are other facilities besides Petrola's, such as Sandy Run and Bull Run Marinas, which offer boat rentals, launching ramps, bait, tackle and food for hungry fishermen.

The shoreline and the water itself are reminiscent of Smith Mountain Lake, southeast of Roanoke; although the surrounding countryside of the two lakes is vastly different, the immediate vicinity of Occoquan Reservoir, especially along the southern shore, is just as hilly and rugged as some parts of Smith Mountain Lake's.

The hemlock and laurel growing on the steep banks in some places present picturesque settings that add immensely to the fisherman's enjoyment and lend credence to the statement, "No, we didn't catch any fish but we still had a great

Dead trees standing in the water near the shore line provide good cover and feeding areas for fish.



## Fine Fishing Hole Near The Nation's Capital



Occoquan offers miles of varied, interesting and picturesque shore line.

time."

The bass fisherman may indeed have to rely on this theory if he concentrates entirely on them at Occoquan, though many bass are coaxed from the shoreline hiding places and the deep holes. One angler attested to the mighty bass' presence in the best way during the first week of June: he showed Russ and me a fine lunker he had caught on a plastic worm. It weighed in at 5 $\frac{3}{4}$  pounds. The heads of at least two dozen bass are displayed at Petrola's as further evidence that Mr. Bass has an established residence in the depths of Occoquan. Also, experienced bass fishermen, such as Ralph Maas of Manassas, report good success taking bass while trolling the cove entrances and 20-50 feet from shore with spinners.

Russ and I, however, in our three recent trips to Occoquan have fished mostly for bluegill, using surface poppers on fly rods, with good success, and crickets on spinning outfits, with nearly a one cricket, one bluegill ratio. Occoquan may skunk a bass fisherman, and even do so often but, if the early June indication may be interpolated to cover the remainder of the warm weather period, it will not be uncommon to catch 50 or more bluegill in a day without undue effort.

Crappie are quite abundant, too, but must be searched for with more diligence. On our last expedition, though, we found very hungry crappie concentrated in a large, deep pool near where Bull Run and Occoquan Creek merge. Using crickets at first, then minnows, we had a ball with the crappie. They also liked an imitation minnow of Russ' which was outfitted with a spinner in front.

After a while we switched to fly rods, and my white popper again saw yeoman duty on the bluegill.

We fished six or seven different coves and a few "points" during our three trips and caught at least some bluegill or crappie in all of them.

The character of the coves varies greatly. A couple are strewn with submerged tree trunks and have dead trees

extending from the water; these remind one of Chickahominy Lake, east of Richmond. Others offer various combinations of rocky, tree-lined, log-littered shores that just beg to be fished. One cove is a beautiful, rugged place where the steep east side is covered with laurel and gray-green moss and the shoreline on that side has been carved from solid rock. On the other side, large boulders alternate with logs and overhanging trees.

It is the kind of place one spends hours in, enjoying the beauty and tranquility of the setting and catching fish, too.

The bluegill we caught weren't astoundingly large, though they admirably maintained their reputation for scrappiness; on a fly rod or an ultra light spinning rig, their determined fights provided some delightful entertainment. The crappie ran somewhat larger but could have taken lessons on beligerence from their smaller neighbors.

There is ample evidence that there are some monsters among Occoquan's fish population, from fish stories (fact or fiction), pictures and reliable reports from the marinas. Russ and I haven't landed any real rod busters yet, and we do not pretend to "know the water" yet, as is so essential for really successful fishing, especially for bass, but we do know that Occoquan offers great sport for a lot of fishermen in Northern Virginia and is a highly appreciated oasis of fish-filled water and beautiful scenery.

During our last outing, we were returning to Petrola's just after dark. The moon had risen to just above the tree tops and was a deep, pie pumpkin orange. A light mist was suspended over the surrounding water, lending an unearthly character to the scene. As Russ guided us downstream, I relaxed in the front of the boat and drank in the sense of beauty, enjoying the feeling of isolation from the "real" world and the close association with nature. It was, to say the least, an extremely pleasant experience—not in the wilds of Southwest Virginia, not in the depths of the mysterious Dismal Swamp, but at Occoquan, right at the doorstep of the Nation's Capital.

# DEER TAKE THE HIGH ROAD

By CHARLES H. PEERY  
*District Game Biologist*

**W**ILDLIFE managers are constantly searching for knowledge of those factors which influence wildlife, either beneficially or detrimentally. Then, too, they must determine those factors of natural origin, which may or may not be controllable; and finally, those man-made factors of influence over which man may have partial or complete control.

A study was completed recently relative to the effects of ground slope (terrain) on the movements of deer in the mountains of southwest Virginia. One question may immediately arise: why study the effects of slope on the movements of deer? Certainly this is one factor of influence that cannot be changed by man. True, but the question is—what degree of slope, or steepness, will deer utilize? Common sense tells us that deer are not capable of negotiating a vertical cliff. By determining the degree of slope beyond which deer travel is limited, then more extreme slopes may be ruled out as potential and useful deer range. With this knowledge, the wildlife manager can analyze a given area and decide which



L. L. Rue III photo

Is any slope too steep for him?

sections, if any, will not support deer simply because of the slope factor.

Justification for this type of study was really based on economics of deer management. Also depending on evidence found, the study might permit scientific explanation for lack of deer in similar areas where slope is the limiting factor. Deer restoration is continuing in mountainous southwest Virginia. Heretofore, no consideration was given to the effects of slope, and deer were stocked in counties regardless of the extreme mountainous terrain encountered. But if the

study proved that *slope alone* was an important detriment to the movement of deer, it would be wise to discontinue the expenditure of funds, and time, in attempting to establish deer on such terrain, and divert such efforts in other directions.

To begin, the areas to be studied had to have deer present. Two of the better "deer counties" of southwest Virginia were chosen, where the resident Game Managers knew deer thrived. Sections of Smyth and Wythe Counties answered the requirements, and the test areas were selected on this basis. The next problem facing the test was to outline certain procedures to be followed. A technical problem needs to be approached with definite guidelines, and these same guidelines must be followed at one or more places and different times, to have the data collected produce any meaningful conclusion.

It was decided that the best route (transect line) to be walked by the observer when studying slope was straight up and down the incline. When the observer walks this marked transect line he will encounter changes in pitch, or steepness. A small hand-held instrument, called a clinometer, is used to measure the degree of slope and the information can be recorded either in degrees or percent of slope. For the purpose of this study, both types of data were recorded, mostly because they served as a check against each other. The type clinometer used in this investigation furnished both readings from the same dial.

While navigating these slopes on foot, it is very unlikely that the observer will have the opportunity to actually see deer. The only alternative is to keep a sharp eye open for evidence that deer have been along the way previously. In wildlife terminology this is called looking for "sign." Deer "sign" can appear in four possible forms: (1) tracks, (2) twigs that have been browsed or bitten, (3) "rubbing," as evidenced by the scraping of bark from small bushes by bucks while the antlers are in the "velvet" stage, and (4) fecal droppings. Leaves raked by deer in search of acorns or other food is not all conclusive, and such "sign" may be mistaken for that left by feeding wild turkeys. In conducting the study two or more experienced observers always walked the line together to minimize the chance of overlooking any evidence of deer movement in the area. The existence of deer "sign" in whatever form indicates that at one time or another the slope at that particular point was and is suitable for deer and does not restrict their movements.

Three such transect lines were each run three times. When deer "sign" was observed, the type of sign was recorded along with the measurement of the slope both in degrees and percent. Although deer somewhat change their preference for types of habitat during the various seasons of the year due to availability of foliage (or the presence of snow and winds), for the purpose of this investigation, when there was evidence of deer having traversed the transect line, this indicated that the degree of slope did not prohibit deer movement.

Deer "sign" was found in evidence on slopes throughout all gradient ranges including those reaching 41° degrees, or 87 percent. Steepness of slope at this extreme makes it very difficult for man to keep footing. It was concluded, however, that slopes of high degree, exclusive of cliffs and very steep bluffs, are used by deer sometime during the year. This does not imply that deer prefer slopes of this nature and would not seek out more gentle terrain. Deer, like man, look for the easy-going route but do not always confine their movements to these routes; deer, like men, sometimes take to the high road instead.

# Let's Give The Black Bear A Break

By BILL WEEKES  
Martinsville

"The sun, moon and stars would have disappeared long ago had they been within reach of predatory human hands."—Havelock Ellis

IN late spring or early summer, when birds leave their nests and daddy-long-legs bedeck shrubs and outside walls in profusion, another creature roams, one toward which man sometimes demonstrates his prowess, and out of season at that. The creature—the black bear.

When May and June roll around, the age-old feud between *Homo sapiens* and *Ursus americanus* blossoms along with the day lily, black-eyed Susan and chickweed.

It is then when man may display a high degree of intolerance toward an animal that is merely following its own instinct. Thus is re-enforced an ancient attitude: namely, some animals are all right as long as they keep their place; that is, exist without trespassing on what man calls HIS.

Cases in point:

On May 10 an eight-foot, 405 pound bear was killed, said to be the same bear that had ruined seven stands of beehives during a three-year period.

On May 20 a bear that had allegedly destroyed four beehives was shot and wounded. The animal escaped.

A couple of weeks later, a bear escaped from a zoo. It was described as "more dangerous than a wild bear because it didn't fear people." The bear was tracked by dogs for two days, but could not be treed to be shot with a tranquilizer gun, so two crack marksmen were authorized to finish it off. "We were afraid it would start to damage the fruit crop and hurt someone, and we wanted it either killed or caged," it was explained.

The laws of Virginia give property owners the right to kill a bear out of season, if the bear is doing "damage" to property. Section 29138 of the Virginia Code says any person may kill a bear which is harming or trying to harm a person, or damaging someone's property. The person would also be allowed to go after and kill the bear, if he starts his chase within 24 hours after such alleged damage or harm took place. Then AFTER killing the bear, the person is to notify the game warden of the county.

Highland county is the only county carrying a bounty on the black bear, but only in cases where it is caught in the act of killing a sheep. This is paid for out of the dog tax fund. M. M. Folks of Stonewall, Highland clerk of the circuit court, said a bounty there hasn't been paid in years.

One needs no permit to kill a bear doing damage out of season. But if a deer is doing damage, one not only has to get a permit to kill the deer, but the game warden must investigate and determine whether the deer's damage is enough to warrant permission to have it killed.

Why is more consideration given the deer?

"The difference is probably a holdover from colonial times," commented J. W. Engle, state forester from Staunton, who once made a two-year study of the black bear's habits. "Bears are carnivores, like wolves and wildcats, and this gets in some people's minds they are dangerous. Bears do get in pig pens down east and do break into poultry houses. I've cut open their stomachs and found feathers and chicken remains in them. But I have never heard of a she-bear killing



Photo by Hugh Morton

a sheep. But I would stress that each bear is different. You can't lump them and treat them as a blanket problem. Each bear has his own peculiarities."

Setting aside a moment the fact that some bears are problems to property, are black bears dangerous? Do they pose a threat to human life? Is there any basis for fear a black bear will jump out of the bushes and attack an innocent human being?

"I have heard of no one ever being hurt by a black bear that wasn't crippled or cornered," stated R. S. Purks, the state game commission's assistant chief of law enforcement.

John McLaughlin, enforcement chief, termed the black bear "one of the most gentle of all species of bears." Some people here confuse any bear with the dangerous grizzlies of the West.

"I know of no reports in Virginia where black bears have ever made any unprovoked attacks on people," said Burd McGinnes of VPI's Forestry and Wildlife Department. "Usually at the first sign of a human, they will head the other way.

"I think it has grown up as an old wives' tale that you have to try to shoot a bear that comes on your property, otherwise it will come tear down your house like some monster and gobble up your wife and children."

Encyclopediae also state the black bear to be normally peaceful and retiring, its instances of aggressiveness the exception as is its propensity for killing larger animals.

But bears have been known to break into cabins to devour garbage and molasses.

"We seem to get more bear complaints in June than any time of the year," confessed Engle. "June is the bear's rutting season and the male bear will be traveling more. But I haven't been aware of any bear doing undue damage. Of course, if you leave food around, the bear will come for it. If you leave garbage on the back porch in the trash can, the bear isn't going to be stopped by a screened-in porch and the person who leaves his food on the porch can legally say the

## Black Bear (From page 9)

bear is damaging his property if it tries to get through the porch and he can shoot it dead.

"Bears have caused problems," Engle continued. "But they can't be solved by mass hysteria. What makes a problem bear can be one of two things. There is either the garbage bear that has gotten used to raiding picnic and recreation areas and has lost his fear of humans, or it's the old bears that have worn down their teeth and are driven to cause trouble by extreme hunger."

"Unless they are really tearing up your property, you shouldn't try to kill them," said Purks. "Some way of scaring them off is better. I know in the peanut section of the state, over in Suffolk, we use a firecracker system to scare off deer."

Purks also suggested a carbide gun—in which water drips over a chemical to form a gas that expands to cause a periodic explosion, which is supposed to scare off wild creatures.

Electrically-charged fences have proved ineffective, according to Engle, and even trapping and removal of bears to remote locations (eight have been so transplanted away from Augusta county since August of 1969) has not been a panacea.

"About seven or eight years ago," Engle related, "two bears were transported at different times from Sherando Lake in eastern Augusta 100 miles to Shenandoah County north of Columbia Furnace near the West Virginia line. During the hunting season the next year both bears were killed within a radius of 18 miles from where they had been trapped. No one has ever come out and said it, but this seems to indicate a homing instinct in the bear. One must remember these two bears had to cross the Allegheny Mountains, go across the Shenandoah Valley and pass over highway 11, the second heaviest traveled highway in the state."

Probably there is no sure way of keeping wild creatures like the black bear out of mankind's backyard. In the final analysis, if man is to be a responsible member in the balance of nature, he must ask himself some questions concerning the bear.

First, we must ask whether turning over bee hives deserves the death penalty for the bear. Should a bee-hive owner, bothered by a bear, move his hives elsewhere rather than execute the bruin? In bear country, should bee hives and sheep herds be prohibited so as not to tempt the creatures to damage? There is a TV commercial which asks adults not to leave keys in their cars so as not to tempt teenagers to steal them. Should we not provide the same courtesy to prevent the enticement of bears, which are not even rational creatures, but rather move by blind instinct?

It is rational and normal to value more the survival of one's own kind, if there be an unresolvable confrontation between man and beast. But this is a day and time when *Homo sapiens* must be more aware of the importance in the survival of other species. More now than ever before all wildlife is threatened by burgeoning human encroachment.

So we ask, what value the bear?

"The bear has an esthetic value. Not many people get a chance to see one," said McGinnes. "If you talk to someone

about seeing one they are usually so impressed they can give you a detailed account of what they have seen."

"How would I treat them? As wildlife and enjoy them as part of the wonder of nature," Engle put in. "I've crept up to 75 feet of bear and when they find out I'm around, they disappear. I've seen bears in caves and have heard their cubs squeal, but I don't molest them and they haven't bothered me. With bear, if at all possible, you just have to live and let live."

The bear also furnishes sport. It runs well in front of dogs and hence poses a challenge to human hunters who value good trophies. (Though the value of being able to kill bears in season rather than out of season is a dubious one.)

Bears also have an ecological value. Their niche in the food chain is at the top. Bears are mainly vegetarians though they do eat smaller animals such as rabbit, squirrel, chipmunk and mice and have been known to eat insects, ant eggs and grubs.

But perhaps it would be more to the point to insist that the black bear, like all wild fauna, be valued for reasons other than its utility to man. It was once felt animals were entities without feelings, that only SEEMED to be suffering when wounded or dying (Descartes). Cruelty to animals,

therefore, could not exist. Animals have also been looked upon as inferior to man, purely existing for his use. This Hebraic idea was put forth to discourage animal worship and the attitude was extended and maintained during the settlement of this country with the meshing of Old Testament mores with New Testament theology.

The 17th Century English naturalist John Ray proposed a moral attitude that may be gaining ground in our country today, especially among young people, and that is that animals were created for their own sakes as well as man's. Also, man is the only species capable of studying and appreciating non-human creatures and, because of this, *Homo sapiens* can make available to himself an avenue for spiritual awareness.

Could this be the valid reason for not killing a bear for merely turning over a number of bee hives? Would this be too tenuous a concept to deserve considering in a world of shrinking wilderness?

Should man make allowance to the black bear, permit him an ounce of tolerance, a benefit of the doubt? Can we resist the impulse to kill and wait for a bear to continue on its way off our land? Is it really so evil that a bear be caught eating fruit from our trees? After all, is this creature cognizant of property rights? Does it deserve a cold-blooded slaying?

The black bear is far from extinct. Some 250,000 were recorded by the U. S. Fish and Wildlife Service in 1963, and during each of the last two hunting seasons in Virginia almost 350 were gunned down.

"There are still thousands of acres in the state where they can roam," observed McGinnes. "True, in some areas human encroachment has been at a slow, but definite rate and the bears are a wide-range species."

It is almost inevitable, therefore, that bears will invade "civilization" from time to time. Restraint by a knowledgeable public should be what greets these wild visitors whose forebears were here long before any of ours.



L. Lee Rue photo

Does the black bear deserve the same consideration and tolerance as the deer receives?

# HUMANS FLOCK TO WILDLIFE REFUGE

Text and Photos by DOLLIE C. YOUKELES  
*Petersburg*

**I**T'S not known whether the birds and animals enjoyed the humans who flocked to Virginia's unique Presquile National Wildlife Refuge for the first week-long experimental open house that has ever been held there. The humans enjoyed it at least, with more than 100 braving the week of cold rain and the dying gasps of winter weather in late April to walk through the pasture lands, the swamps and around the beaches of the man-made island located in the middle of the James river, near Bermuda Hundred in Chesterfield County.

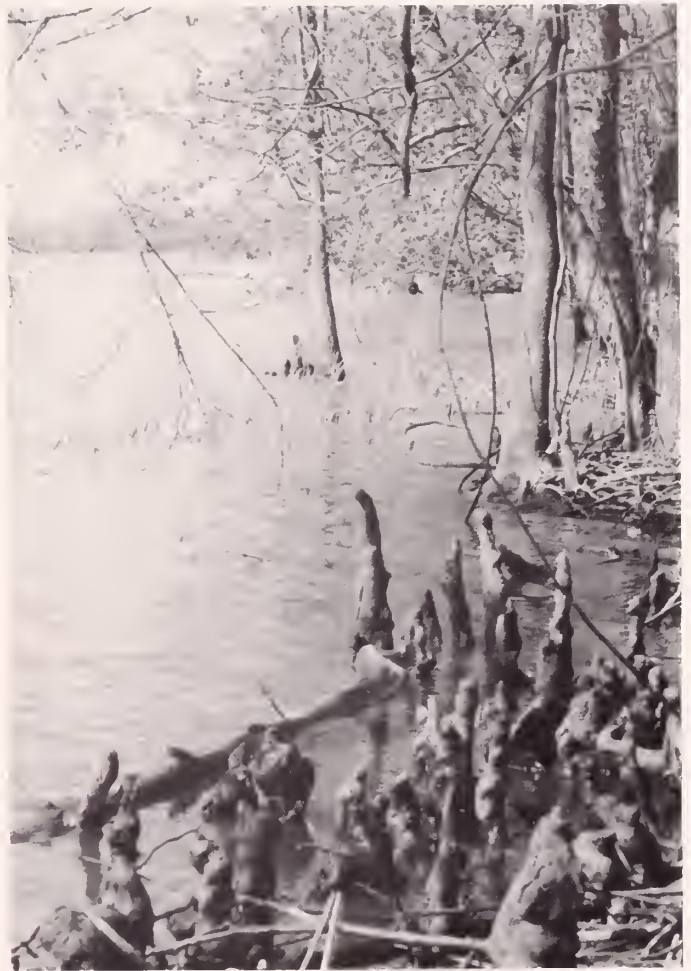
Paul D. Daly, refuge manager, counted this first open house a surprising success, in spite of the weather, and expressed the hope that the public visit could become an annual affair. Inaccessible except by a small government-owned and operated ferry, the isolated 1,329 acre island is a nature-lover's paradise that is managed primarily for waterfowl. The Presquile Refuge, which contains some 800 acres of tidal swamp, 250 acres of tidal marsh and 275 acres of agricultural land, also acts as a sanctuary to a herd of deer, now numbering about 130, and to other wild animals native to Virginia. Departing visitors signed the Presquile guest book, logging in their collection of sighted wildlife.

Daly and his family live on the island which has only an old dairy barn and one storage building, in addition to the house. The island's only other full-time employee is Luther Vick. Winter is their big season for banding and counting migratory waterfowl. As many as 10,000 Canada geese and 15,000 ducks winter here.

"We become farmers in spring," Daly says. Crops of corn, wheat, buckwheat, clover and rye grass are planted, primarily as feed for the migratory birds. Some of the corn is harvested for seed, but most of the crops are left in the fields as feed. A tall barbed wire fence was built around the farm land some years ago to keep the deer out of the planted area, but it was a losing battle—the deer continued to push holes through the fence. "We've given up trying to patch the holes. Anyway, by controlling the deer population, we find there is plenty of food for all of them," Daly explains. The refuge is opened to bow hunters for a short period in October with "lots of arrows flying," according to Daly, but with only 12 or 15 deer checked out each year.

Other than waterfowl find the island a haven. In all, 198 species of birds have been regular visitors to the Presquile Refuge, according to studies and observations made between 1953 and 1966. There are generally about 50 pairs of wood ducks on the island and a colony of bank swallows nests in the steep clay banks near the navigational channel. The colony of swallows is the only one known within a radius of 100 miles. In addition to the "regulars," four species of birds have been sighted on the island only once or twice and are listed as "rare or accidental"; they are the red-throated loon, whistling swan, upland plover and the glaucous gull.

This year Daly and Vick banded 79 Canada geese and 1,018 ducks, of which 528 were black ducks. The ducks are



Cypress "knees" make a fairyland of the Presquile swamps.

caught in large, baited chicken-wire traps, strategically placed on creeks in the wooded swamp areas. Information as to sex, kind of duck and the number banded is sent on to the Fish and Wildlife Service in Washington, D. C., to provide valuable statistics on migration patterns and age of the birds. The ducks are released after being banded on the leg with small metal bands, each bearing different numbers along with a request from the Fish and Wildlife Service that hunters return the bands to Washington.

The geese aren't collected for banding until the end of the hunting season, which was January 24 this year. "Those geese are smart," Daly says. "They winter here safely with

Paul D. Daly, Presquile Wildlife Refuge Manager, watches for birds. Nearby blind provides concealment when needed.



## Humans Flock to Wildlife Refuge (From page 11)

us until the hunting season is finished and then they take off. We have to wait for the flock to return to do the banding." On March 1st, 3,000 of them did return to the fields which had been heavily baited with corn, but it wasn't until the 15th of that month that Daly and Vick were able to catch 79 of them at a single blast of the cannon that shoots a net at an angle over the field. Two of the 79 geese captured for banding already carried Presquile bands on their legs: one dated 1968 and the other an old-timer who had been tagged six years back.

More geese and ducks seem to be coming to the refuge every year as their natural habitat disappears in the United States. However, the ducks are having a particularly hard time. Daly explains. They breed in the Canadian prairie areas which have suffered several years of drought. Then too, their breeding grounds are fast disappearing as farmers drain the land for crop use. The goose flocks are actually building up each year. They breed much farther north in the Canadian woods, which haven't yet felt any serious incursion of human activity.

The Presquile name is now a misnomer, for the national wildlife refuge has been a true island since 1934. At that time a more direct navigation channel was cut through the narrow end of a peninsula which formed a large loop in the James. The resulting island became a wildlife refuge in



Luther Vick (left) and Paul Daly transported visitors across the James River to Presquile on their one-car ferry.

1952. The 1,000 acres of water in the old channel were put off limits for hunting of migratory birds by a government proclamation in 1954.

The U.S. Fish and Wildlife Service would like to have two dikes built, eventually, across that old channel in the James. Purity of the water could then be assured and the swamp areas of the island could be made more accessible to the migratory ducks. By controlling the level of the water, more of the swamp could be flooded, Daly explains. The ducks have access to that area now only by creeks and at high tide.

Paul Daly, in his second year as the refuge manager, is originally from New Jersey. He is a graduate of the University of Maine and has been with the Department of the Interior Fish and Wildlife Service for four years. He was at the Backwater Bay Refuge in Virginia Beach before coming to Presquile.

More than 100 Virginians responded to Daly's open house invitation this year, and he expects that many more will turn up next year. In an increasingly urbanized area, the Presquile Refuge offers visitors a rare chance to see wildlife in a natural setting.

## Training for a WILDLIFE CAREER

By JOHN D. GAVITT, *President*  
*VPI Student Chapter*  
*The Wildlife Society*

**T**RAINING requirements for a professional career in wildlife conservation are only slightly understood by the general public and even the students entering the field. I would like to pass on some accumulated information about the curriculum one can expect.

Wildlife science, whether it be research or management, is a specialized and highly technical field. The student who enters it with a fishing rod in one hand and a shotgun in the other is in for a rude shock. The first two years of his formal training in wildlife science will contain only a few courses which relate in any way to the curriculum. He will be bogged down with math (two years), physics (one year) and biological sciences which will leave the average student discouraged unless such work was expected. This is especially true if the student is to be a qualified forester, with the option in wildlife management. Botany, taxonomy, dendrology and other courses relating to vegetation are always first on the list in a wildlife management curriculum. By the end of the sophomore year, the student will probably feel that he is "over the hump" and can now get down to those "hunting and fishing" courses. No such luck. Never before will so much be demanded of the student than in his Forestry and Wildlife courses. Forest Fire Control, Silviculture, Forest Pathology and Principles of Wildlife Management are all fascinating names with which to impress friends, but each requires hours of training in basic concepts which will later be applied at what is subtly known as "Spring Camp." I (as did others) packed my fishing rod and pistol to such a camp last spring, naively ready to put my accumulated knowledge to work. However, somehow other plans had been made by the faculty. Silvicultural practices, mensuration applications, ecological relationships, and even wildlife management practices were drilled into the student for four weeks straight. Never had I learned so much in so little time.

Forestry courses will predominate the senior work schedule. The reason for this is fairly simple. Wildlife, whether it be game or non-game, is a product of its environment. Without understanding relationships between soils, vegetation, air and other products of the environment, the potential wildlifer will never be able to manage any animal species effectively.

What of the wildlife courses themselves? I find them by far the most interesting because they involve life histories of the species and censusing and management techniques. If such details do not interest the potential wildlifer, then he does not belong in the field.

Four years of college work do not automatically make a professional in this field. I would recommend to students that they immediately enroll in a Co-op program, if there is one available at their school. The program basically involves working alternating quarters in the profession related to their curriculum. I have worked with the Co-op program with the Fish and Wildlife Service and with Weyerhaeuser in North Carolina.

The road to a professional wildlife career is both demanding and rewarding, with a Master's Degree essential to move forward in the field. Competition is stiff and only the best will remain to contribute their research and ideas to one of our most important resources.

## VIRGINIA WILDLIFE

# CONSERVATIONGRAM

Commission Activities and Late Wildlife News . . . At A Glance

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**DOVE INDEX SHOWS POPULATION UP.** The 1970 dove population index, based on spring counts of calling males, is up 4.5 percent in the Eastern Management Unit but still below that recorded for this area during the early 1960's, reports the U. S. Fish and Wildlife Service Migratory Bird Populations Station. On a national basis, this increase was more than offset by declines in the central and western portions of the country. The counts of cooing birds are made each year by state game biologists, wardens and managers and federal employees traveling over established routes and compared with counts from other years to detect changes in numbers.

The telephone survey, conducted under contract with the Wildlife Management Institute with the financial sponsorship of participating southeastern states, and the Virginia hunter survey indicate that there are some 65,000 hunters who participate in the first half of Virginia's split dove season. Estimates of the kill in the state range from a million to a million and a half, at least 90% of which are taken during the first half of the season. The telephone survey also indicated up to a 14% increase in the number of hunters and a 3% increase in kill under the bag limit of 18.

**\$22,100,000 IN FEDERAL FUNDS FOR FISH AND WILDLIFE.** A total of \$22,100,000 in federal aid to states has been distributed as preliminary apportionments under the Dingell-Johnson and Pittman-Robertson programs to benefit fish and wildlife, reports the U. S. Department of Interior. The initial allocation included \$6,200,000 for fish restoration and \$15,900,000 for game restoration. Virginia's share amounted to \$93,326 for fisheries projects and \$296,692 for game projects. These monies, when matched with 25% state funds, may be used for various research and development projects to improve hunting and fishing in the state.

The monies are derived from excise taxes on guns, ammunition and fishing tackle purchased by sportsmen. They are distributed from the federal treasury on the basis of the state's land area and the number of licensed hunters and fishermen. They have been and will continue to be an important source of funds for state game agencies.

In Virginia, federal aid monies have been used to finance the purchase and development of many hunting areas and public fishing lakes throughout the state. They also finance a great deal of the research now going on in both the fisheries and game management fields. Most of the data upon which seasons, bag and creel limits and fish size limits are based comes from this research. With the exception of a small amount received from the sale of timber, this federal aid is the Game Commission's only source of revenue other than that received from sales of hunting and fishing licenses and boat registrations.

**MIGRATORY BIRD SEASONS SET.** September 5 was picked as opening day for the 1970 dove season, the first segment of which will extend through October 31. The Labor Day weekend opener will give many Virginia hunters a double crack at the gray speedsters. The second half of the split season will run from December 21 through January 2 to take in the Christmas and New Year holidays. The bag limit will remain at 18 birds per day with a possession limit of 36. Shooting is allowed only from noon until sunset each day, prevailing time.

Virginia rail hunters will have a 70 day season beginning with high tides on September 10 and continuing through November 18. The bag limit again will be 15 clapper and king rails counted together, plus 25 sora and Virginia rails per day. Hunters are allowed 15 more clapper and king rails in possession above the daily limit.

Woodcock and snipe seasons will run concurrently from November 16 through January 19. This is a 15 day extension of the snipe season over that offered last year. Bag limits are 5 woodcock and 8 snipe daily with twice that many allowed in possession. Shooting hours are from one-half hour before sunrise until sunset on all other migratory species except doves.

**D**OVE hunting on public lands is a relatively new innovation in Virginia, but it is catching on fast with the recent proliferation of wildlife management in the central and southern Piedmont.

Fields on a number of public hunting areas have turned out to be attractive both to doves and to hunters. Food is the main factor that attracts and holds concentrations of doves during early fall, and this they find in abundance in the wildlife management area fields. Corn, millet and other attractive crops are grown on the areas and harvests are timed so gleanings will attract and hold concentrations of doves from mid-September through October.

No special fees are charged to hunt these managed areas. A valid hunting license is all that is required. On Commission of Game and Inland Fisheries public hunting areas, check-in and check-out procedures are cut to a bare minimum. Hunters issue themselves permits as they enter, and leave simple reports of time spent and game killed by placing them in a convenient mail box at the exit as they leave. Hunting is limited to Wednesday and Saturday afternoons during dove season.

For safety reasons, and because of the possibility of running afoul of military training activities, hunters on military reservations check in and out through central stations where they can receive necessary orientation and briefings.

**JAMES RIVER WILDLIFE MANAGEMENT AREA:** This is one of the Commission's most recent acquisitions in the Piedmont. It is located in Nelson County on the north bank of the James River, and access is by Route 626 off state route 56 approximately 15 miles southeast of Lovingson. There are approximately 200 acres of open land consisting of sloping former pasture and flat bottom land along the river. The remaining acreage is covered by a mixed stand of hardwood and pine which has been selectively cut over recently.

The low ground along the river should provide the best dove shooting.

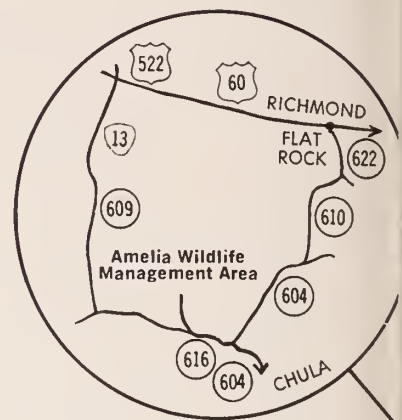
**AMELIA WILDLIFE MANAGEMENT AREA:** Over 2,000 acres of excellent Piedmont upland game habitat, about one-third of which is in open fields much of which is planted to wildlife food crops, describes the Amelia area located within an hour's drive of Richmond. The Appomattox River forms the area boundary on the north for over three miles. Both the upland grain fields and the low ground along the river usually attract and hold good numbers of doves.

**ELM HILL WILDLIFE MANAGEMENT AREA:** Located in Mecklenburg County immediately below the John H. Kerr dam on the north side of the Roanoke River, Elm Hill was acquired in 1965 and is being developed primarily as a waterfowl refuge to attract and hold ducks and geese to provide waterfowl shooting on Kerr Reservoir. Prior to arrival of its wintering population of waterfowl it yields good dove hunting, and it also serves as a first class field trial area.

**POWHATAN WILDLIFE MANAGEMENT AREA:** This tract located only 33 miles west of Richmond was purchased in 1963 to test the feasibility of managing relatively small acreages to provide public hunting near large population centers. It is located south of route 60, with access from state routes 13 and 627.

**KERR RESERVOIR:** In cooperation with the U. S. Army Corps of Engineers the Game Commission provides public dove hunting fields on Corps' lands bordering Kerr Reservoir, west of the Elm Hill tract. One is on Eastland Creek, one near Soudan, and one between Banister River and route 716.

## PUBLIC Dove

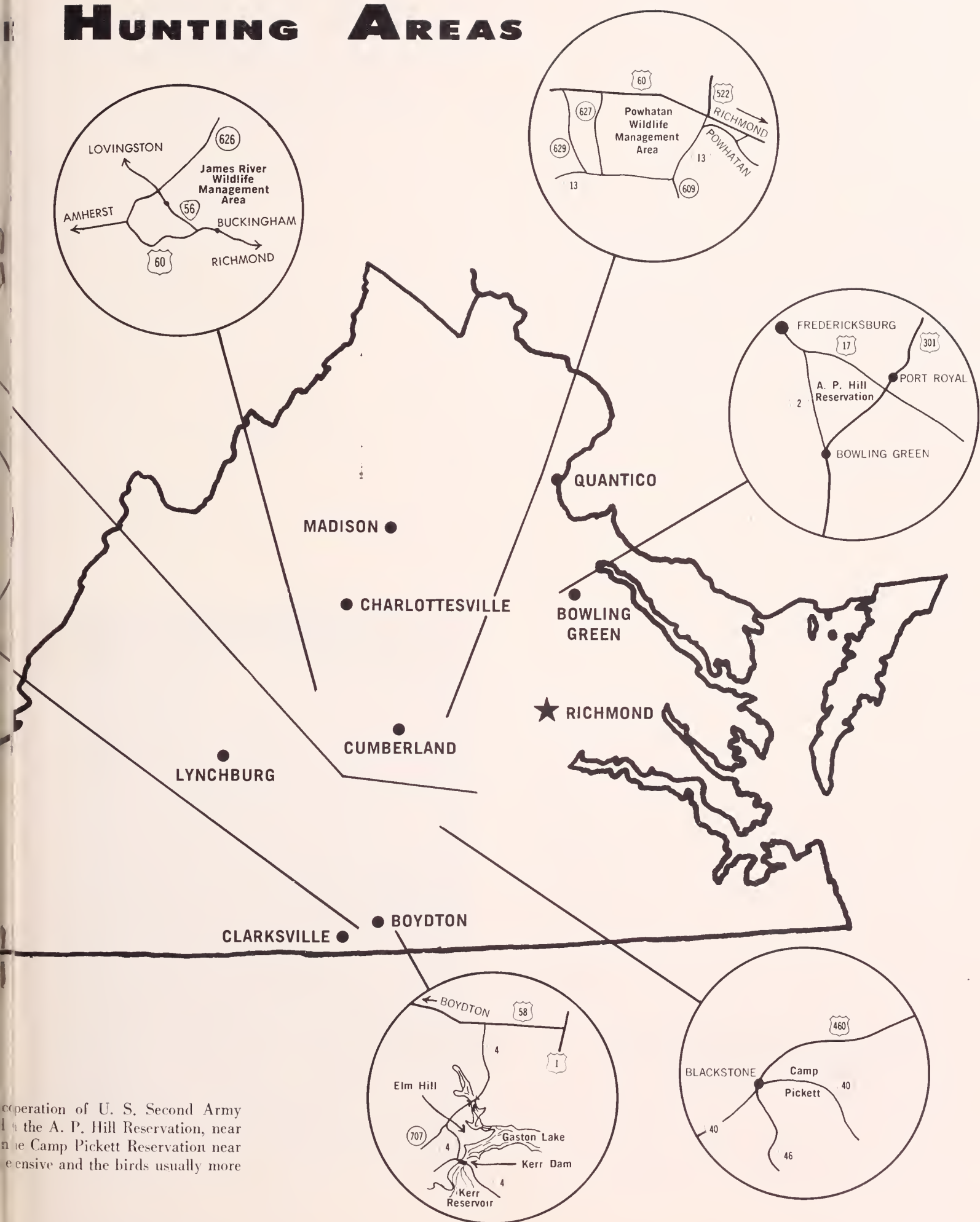


**KERR  
RESERVOIR  
DOVE FIELDS**  
(Details on next page)

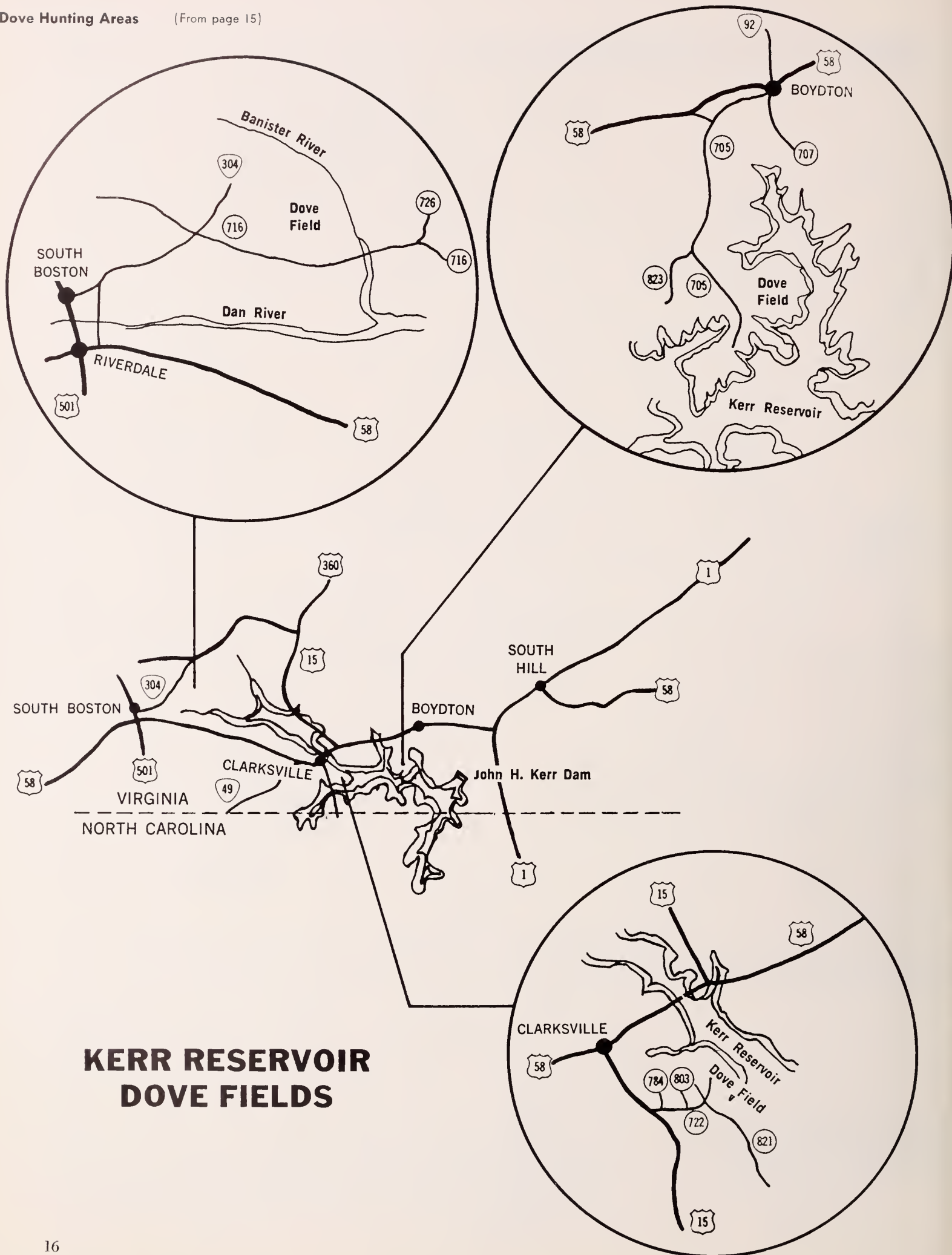


**MILITARY RESERVATIONS:** Through the Command public dove hunting is permitted on Bowling Green on routes 2 and 301, and on Blackstone. Developed dove fields are more abundant on Pickett.

# HUNTING AREAS



operation of U. S. Second Army  
in the A. P. Hill Reservation, near  
the Camp Pickett Reservation near  
the reservoir and the birds usually more



## KERR RESERVOIR DOVE FIELDS

# NATURE

## AT YOUR DOORSTEP

By FRANCES REEVES OWEN  
*Bedford*

I'M a backyard, amateur naturalist. Right outside our doorstep is an abundance of nature's secrets to be discovered. The trick is to be patient and watch. I don't feel the urge for professionalism; my interest in the natural world is for pure joy. Too much of the time man tends to overlook the miracles and wonders of earth and takes it all for granted. What great excitement there is listening to the wildness of the storm, feeling the softness of spring. There's the smell of autumn, the noisy quietness of a heavy snowfall and the fun of watching the wildfolk. The fact that one season follows another with great regularity gives confidence and serenity that someone is in charge and all's well with the world.

Take a year beyond the doorstep and find the humor, beauty, surprises and sometimes tragedies found during the four seasons.

Fall! The time of preparation. The squirrels and chipmunks are in a frenzy as they store acorns, seeds and other delicacies they feel are necessary for winter. They are so intent on the business at hand they don't give a thought to anyone or anything. They have different personalities—if

We keep close track of the chipmunks in our yard.

*Commission photo by Kesteloo*



you want to call it that—in the spring, in the summer, in the fall.

We keep pretty close track of two chipmunks in our yard. One lives under a stump in the front; the other, under the roots of a tree in the back. In September they race madly, and nothing runs like a chipmunk, storing nuts and grains in their cheek pouches, looking as if they had the mumps.

On a trip last fall, we returned by way of Mabry's Mill on the Skyline Drive. There's a large hickory tree in front and underneath a goodly scattering of hickory nuts. I gathered a handful for two of the friendly squirrels in our yard. They are especially fond of hickory nuts. They have a spicy odor that smells like fall and leaves burning. The squirrels decided not to store them, but raced up one of the oak trees, sat on a low spreading limb and proceeded to peel the hulls off with their sharp teeth. When finished, they came down and looked expectantly at me for another. This went on for some time.

It was in September that I saw the black-capped chickadee in the hemlock tree by the bird feeder. He was a precious, little, quick bird with white puffy cheeks. Sometimes he hangs upside down to eat, finding morsels in the tiny hemlock cones.

Autumn has an odor and color all its own: the pungent smell of dry leaves and at night a sharp, frosty smell. The sunsets are as red as fire and our mountains are festive. They are having their last fling before winter sets in with its icy quietness. My husband and I have been among the lucky ones to have heard the herd of elk thunder through the trees up there and watched them burst out across the Blue Ridge Parkway and to have seen the wild turkeys strut in their bronze and black plumage. The gum tree in the corner of the woods garden suddenly comes into its full crimson glory, and I know autumn is in its prime.

The miracle of the winter season is hibernation. Looking out over the heavy blanket of snow I picture many small ones sleeping cozily; even insects and crawly things are snug. I love to think about the lively chipmunk in his burrow deep in the earth by the stump. He disappeared in September. Now he is curled in a ball in a nest. He has three or four scooped out holes down there. One is his sleeping quarters and the others are pantry rooms for storing his nuts and crunchy seeds. He even filled his bedroom with delectable morsels and prepared his nest on top. He can reach out a forepaw and select a nut to sleepily munch on.

In winter the squirrels' great nests are visible in the leafless trees. They are high and I don't understand why the strong winds don't bring them tumbling down. But the squirrels have been anchoring them there for years, and I don't believe man could improve upon their method. Have you ever watched a squirrel look for his buried treasures when the snow is deep? He leaps quickly through the snow and suddenly disappears. After a few seconds, up pops a furry head munching on a nut. They look like little prairie dogs popping in and out of their snowy holes.

Two winters ago, during a terrific, ice covered time, we found two, young birds frozen to death. They were in per-

fect condition. One was a male cardinal; the other, a woodpecker. This was the first I'd ever had the opportunity to see birds closely and I examined them minutely. The woodpecker had small white spots on the tannish brown wings and little tufts of red feathers on its head. The cardinal was about seven and a half inches long. The outer feathers were a very soft black-grey; the underneath part was a beautiful cardinal red, as was the head, with little black feathers surrounding the red beak. The tail and wingspread were a mixture of red and grey. There were four claws on the tiny feet. To me they were a miracle of perfection. I admit I kept them frozen a while just to be able to look at them.

It is a tremendous sight to see the colorful birds against the snowy background. The bird feeder is among the hemlocks and the branches are heavily laden with snow. The ground below is pure white. Five or six red cardinals gather and then four tremendous blue jays come. It's too bad they are so mean for they are beautiful. The cardinals and smaller birds are scared to death of them.

This white and teal blue time gives way to the mellow softness of spring. This is the inspirational season. All things begin anew with exciting vigor and great joy. The air is soft and gentle on your face. The smell of spring is delicate, lilac-scented. Soft, brown earth is teeming with activity with crawly beings coming to the surface and green shoots sprouting forth. It's lovely to feel the pale green leaves and tender grass between your fingertips. Everything is young and bursting with hope.

This is the time when my favorite hour is early in the morning, before busy people are up. The wildfolk have the place to themselves. The birds are up and want everyone to know it. The bobwhites advance closer and closer to each other as they constantly call.

The soft, grey catbirds are the most friendly. If I sit very still they don't mind hopping close, looking for food. They are like the chipmunk, friendly to humans.

The grey cottontail rabbit has a regular route in the backyard almost at the same hour every morning. She sits on her haunches and looks at me as I watch her. Of course this is in

Black-capped chickadee.

L. L. Rue photo



Commission photo

A miracle of the winter season is hibernation.

between bites of tender, green things. The rabbit's periferal vision is a miracle, too. She can see almost completely around. There's just a small portion in the back that's not visible. The rabbits have so few defenses against their many enemies that they have to be able to see everywhere at once.

This is when the woods garden is at its loveliest and freshest. The purple, grey and white violets are in grand array. The hepatica looks like delicate embroidery. Each day there is a new blooming; therefore, a new surprise. The miracle is how could they unfold in all this beauty after being locked down under in the frozen earth.

Summer lazily drifts in, deepening the soft and light spring shades to steady, deep green tones. This is the time when plant growth and wildlife activity goes along at an even pace—slowly, peacefully—that is, until the storms come! And they invariably come.

The day of this one particular storm began with oppressive heat. The horizon was a sea of fire as the sun rose. The still, blue sky was completely void of any cloud formations. An occasional, deceptive breeze moved the tips of the hemlock branches and the dry, limp oak leaves. As dawn turned into day, the heavy, hot air affected human and wildlife alike.

The trap-door spider descended into his earth tunnel in search of coolness. The squirrels moved languidly on all fours, tails streaming behind. The birds chirped quietly, deep in the trees and thickets. A lone rabbit came, loping casually, checking a clover patch.

As the storm built up far away, the birds became quarrelsome over trifles and ruffled their feathers, sometimes screaming harshly at one another. Insects became nervous and irritable. Fleas bit viciously on dogs. Flies were unmerciful on whomever they settled. All of nature was tense and waiting.

The first ominous indication of the storm occurred around eleven in the morning. In the west a dark, bluish mass began to form, which thickened and spread slowly. Its darkness was accentuated by the bright sun. The air was closing in. Clouds rapidly rose from the south. In the west, out of that blue, black spread, a towering thunderhead swelled. Masses of thick, white clouds rolled and tumbled. As mid-afternoon came, our particular part of the earth was held in the grip of a black, threatening cloud. Suddenly a streak of white lightning flashed across the sky. It was closely followed by crashing, reverberating thunder! Flash upon flash the lightning came from every direction! The eerie blackness of the afternoon was shattered by the brilliant and terrifying

flashes. The stillness was broken by the crash of booming thunder! The forked lightning struck trees and split them to the ground! This was nature at her worst and at her best.

The wind bent the trees to its will, swept the branches cruelly and broke those off which could not withstand the flailing punishment.

Then came the drowning but-giving rain, which fed the earth and at the same time destroyed parts of it. It beat mercilessly on bushes, flowers, wildlife and tender growing things. The swelled clouds burst open endlessly, washing and flooding.

Gradually, as evening came, the storm lost its harshness and wore itself out, tapered off to a light, gentle, caressing rain, reluctant to relinquish its hold on the world.

It finally let go, and the beauty of the next morning was as dramatic as the storm. The soft coolness of the air, the washed blue sky, the glistening sun, the green countryside almost overshadowed the destruction both seen and unseen by human eyes.

But, alas! All was not serene, that jewel of a morning in our yard. Storms take their toll of wildlife and such was the plight of the mother catbird and her mate. They had built their nest in a thick bush near the hemlocks. It was a good and proper place for a catbird nest of twigs, leaves, small roots lined with shreds of bark. The female had faithfully protected the eggs through other rains, high winds and burning sun.

This storm was different, though. It required all her bird instinct to protect her young. She had settled herself on the nest facing the wind. The harder the rain and wind, the further down she settled. She covered the four baby birds with her feathers and and body while the male stayed close by.

When morning came, I discovered one of the fledglings had been swept from the security of the nest. The female and her mate immediately abandoned the other three to answer the pitiful cries of the helpless one on the ground. All morning mother and father followed the baby, screaming warnings to any who dared to venture too close. They took turns bringing struggling worms and insects and stuffed them down the wide, gaping throat.

Throughout the afternoon they kept up their watchful care. By evening the baby bird had wandered through the bushes and under the fence which led to the woods. There, living in wild condition, was a black cat. He was hungry and was hunting. The parent catbirds were no match for the ravenous animal. Swooping down in the cat's face, worrying it, trying to drive it away did no good. The cat pounced! And so the male and female catbird went back to their other three. Night was approaching. Such was one of the wildlife tolls of the storm.

But to the good, great trees were pruned, weak and dead branches were felled by the wind. Life giving water nourished the earth and swelled the streams. Nitrogen fertilized the ground, furnished by the great flashes of lightning.

Nature's storms bring down the branches and trees that can't stand the force. Thus the storms of life beat against us. Those who are strong, withstand forces of destruction and stand tall as a beacon and are an inspiration to others, just as the stately trees stand tall in the forest withstanding the storms of nature as they beat against their trunks and branches.

And so we have lived a year beyond our doorstep. Each day, by looking, listening and feeling, brought new surprises. The more we listen and the more we patiently watch, the better we will understand this earth of ours and ourselves.

# *That Aggravating Bird!*

By ILEEN BROWN  
*South Boston*

**M**OCKINGBIRDS usually select shrubs, small trees or thickets to house their nests. Around our house they weren't any different. Each spring they would build their nests in the arborvitae near the front porch or in the small trees that fronted the house. But as with humans, some birds have to be different. So last spring the arborvitae and the small trees were turned down, and Mama's favorite peace rose bush was chosen by a pair of mockingbirds as an ideal nesting place. That is when the feud between Mama and the birds began.

The mockingbirds had put in a good supply of stieks and rootlets, and the large bulky nest was already taking shape when Mama saw it one morning as she stood admiring her roses. Shocked that anything or anyone would dare bother her roses, she pulled out the sticks and rootlets and scattered them on the ground. It isn't that Mama is anti-birds, it's just that everything has a place, and her rose bush wasn't the place for a pair of mockers to raise a family.

Apparently the mockingbird had other ideas, for the next day the sticks and rootlets were back in the rose bush with a few more added. Again Mama dismantled the nest makings and threw it to the ground, while the mockingbird fussed from a nearby perch.

Next day the sticks were again in place and Mama's patience was wearing thin. She again pulled out the nest makings and stuffed a newspaper among the rose branches.

"That'll keep that aggravating bird out," she muttered.

During this time the mockingbird had been watching Mama from his favorite perch on the eaves of the house. When Mama turned to go into the house, the bird flew down on the ground and immediately picked up one of the sticks in its mouth, and flew over to the rose bush. It watched Mama for a moment, and then almost with an air of defiance, put the stick in the rose bush beside the newspaper, and then flew back to the ground and picked up another stick.

"Why you naughty bird," Mama scolded, but a smile played around the corners of her mouth, as she reached into the rose bush and pulled out the newspaper.

From then on the mockingbird built its nest without any interference from Mama.

When the four bluish green eggs were laid, Mama continued to visit her roses each morning. The mocker quarreled with her each time but stayed fast on its nest. Mama watched the baby birds change from blind and helpless at hatching to noisy and alert birds ready to leave the nest in less than two weeks.

And then that morning came when she went to see her roses and to peep at the baby mockers, who by this time, had been finding their nest a bit crowded. The nest was empty. Mama felt a trace of sadness. Then from its favorite perch on the eaves of the house, the mockingbird started its familiar fussing. All is well, it seem to be saying. Mama smiled. "They weren't bad tenants after all, and maybe next year—."

# On Cooking Fish

By MARJORIE LATHAM MASSELIN  
Richmond

EVERY now and then someone asks me why these articles are so short on fish. The answer is that I think the subject is limited. Not limited by the kinds which are available, but by the people who actually enjoy eating fish. Even among dedicated fishermen, I find that a good many prefer throwing them back as caught to bringing them home to cook. In short, a fish is a thing you either love or despise, and it has always seemed doubtful to me that a thesis on the subject would alter any opinions.

Usually, one's opinion of fish is formed early in life. I met one youngster, once (he was eight at the time), whose idea of Heaven was to have his mother serve him a pan-fried trout for breakfast. I have always thought of that boy in terms of "rugged individualism," and while I share his enthusiasm, I have never found it to be particularly widespread. More often the reaction to trout for any meal is, "Oh, but they're so *bony*!"

That, of course, is the difficulty. Fish *do* have bones. It is their one great drawback. It makes them difficult to serve and impossible to consume casually. To eat a whole broiled trout demands the diner's undivided attention, and I have seen the most accomplished of waiters lose his cool trying to split a perfectly baked shad and remove the skeleton. Consequently, the tendency is to lean toward fillets for dining out or having people in. Fillets are fine in their place, but not all fish lend themselves to this treatment. The beauty of most of the boniest fish is to serve them whole. That limits their acceptability in the dining room. To do them justice, one must be among friends! There is no way I know of to be "dainty" about eating fish. Even a rockfish, which has fewer and larger bones than many varieties, is not the easiest thing in the world to dismember on a platter and transfer to plates.

The third limitation is rooted in my pre-conceived notion that every fish has *one* ideal means of preparation. The only way to decide what that method should be, is to have the fish in your possession. The primary determinant is *size*, not *variety*. While there is certainly a "best" way to prepare the various *kinds* of fish, it is not always the most *practical* way.

There is not much that can outshine a pan-fried, freshly caught trout. But trout come in assorted sizes depending on the species. Some of them are quite enormous, and the only sensible thing to do with that size is to bake it. The idea of baked trout just doesn't turn me on. The alternative is to fillet it and cut it into serving-size pieces which can then be dipped in egg, rolled in crumbs or meal or flour and fried. That rouses even *less* enthusiasm.

The thing is that fish, more than anything else on the menu, should be absolutely *perfect*. One can adjust to overcooked meat or undercooked eggs, or even a wild duck that "falls from the bones," but a fish *has* to be *exactly right*. To qualify for that test it must be perfectly fresh, the ideal size for the species, and prepared in the manner—the *one* manner—that brings out all the best attributes of that kind of fish.



Commission photo by Kesteloo

Fish small enough to fit into a frying pan ought to be fried.

But the object of these articles has always been to promote the use and avoid the waste of all kinds of game—footed, finned and feathered. That is why I say that a cook must have the fish in her possession before deciding what to do with it. If it is oversize or undersize, it still ought to be cooked and eaten simply because it ought not to be wasted. "Willful waste," my grandmother used to tell me, "makes woeful want," and I believe it. To that end, I offer you these rules of thumb.

First and most important in considering the treatment of *all* kinds of fish is to accept the idea that the *less* you do to it, the better it will taste. Both the flavor and texture of fish is delicate. Highly flavored sauces have no place in the preparation of fish. I think it more than doubtful that a three pound lake trout will be improved by dumping a can of tomatoes and a handful of crushed garlic cloves into the baking pan with it. The same goes for bass, blues, rock, pike (if you are lucky enough to catch one), and all the rest.

Stuffings are in the same category with sauces. Neither adds or enhances in *any* way, and both complicate the serving to an unnerving degree. This does *not* mean, however, that it is not permissible and often an excellent idea for the cook to tuck a few fresh, green herbs inside the cavity of a fish. These do add flavor—*mild* flavor—which will bring out and

For that crisp look, fried fish should be coated with bread crumbs or flour before the frying.

Commission photo by Harrison



enhance the inherent flavor in the flesh. Such herbs are easily disposed of when the fish comes from the oven, so they are not in the way of the person who is serving.

Secondly, small fish, which is to say anything in the vicinity of nine inches or anything that will fit into a frying pan, should be pan-fried. Except for cleaning (and that should be done *immediately* after the fish is caught), these small fish are better left whole with heads and tails in place. They hold together better; they are easier to handle in the pan as well as in transferring to the serving platter, and they *look* more attractive going to the table than a collection of headless bodies. If the strange appearance of a fried fish eye upsets you, cover it with a slice of stuffed olive.

Any fried fish should have a crisp look about it. That means crisp in the sense of crisp lettuce; not in the sense of being hard and dry. The one thing you must never do is over cook a pan-fried fish. You should never cook *any* preparation of fish too long, for that matter, but the error is less excusable in frying than in baking, broiling or poaching, and it cannot be covered up or compensated for (by using a sauce) in frying as it can in the other methods. On the other hand, fish is quite inedible if it is underdone.

To achieve this desired crispness, it is necessary to coat the fish with something. Properly done, this coating also serves to seal in the juices so that the fish is moist and tender. It cuts down spattering in the pan, too. The kind of coating should suit the fish and to some extent is decided by the medium used for frying.

In general, if I am sauteeing in butter, I like to use fine, dry bread crumbs as a coating. But to assure that crumbs



The alternative to baking or broiling a larger fish is to fillet it, roll serving size pieces in crumbs, flour or meal, and fry.

stick well, it is necessary to first dip the fish in egg beaten up with a little water. For certain kinds of fish—say a brook trout—this sort of coating seems a little much. A light coating of flour is more in order. This will adhere well if the fish is barely dampish. After washing, *pat* the fish dry with a clean towel leaving just enough moisture *in* but not *on* the skin so that a brief shake in a bag with seasoned flour will coat it. Excess moisture makes a “gummy” mess.

With oils or fats other than butter, cornmeal seems to produce the best results. Batters should be kept for use with fillets and for deep fat frying.

The only necessary accompaniment to pan-fried fish is a lemon wedge and a sprig of parsley as a garnish. Some people like tartar sauce, and if you are aware of this preference it is nice to have it available.

Medium size fish—for example blues and rock—can be broiled whole. Basting with olive oil gives their skin the same lovely crisp, brown appearance that pan-frying achieves with the small kinds like bream and perch and bass.

Once you get beyond the three pound limit, baking is in order, but you still leave it whole and you still baste with oil because it produces the best result for handling and for looks. Once you allow a medium to large whole fish to get soggy in the pan, you are in trouble when it comes to getting it out of the pan. That crisp skin helps to keep it in one piece.

Fillets can be handled in four ways. They can be breaded and fried in butter; dipped in batter and cooked in deep fat; broiled; or poached, either in water or wine, and then served in or with a sauce.

In general the sauce should be a veloute made in part with the poaching liquid which has been reduced by simmering. For a stronger flavor, a stock made with the heads, skins and bones of the fish may be used. This liquid is added to a white roux made with butter and flour and then milk or cream is added to thin it to the desired consistency. Beyond this point you are on your own. Mushrooms may be added or a small amount of shellfish or shellfish “butter.”

Poached fish is the one way in which fish can be served cold. A perfectly poached fillet with a cucumber sauce is a lovely warm weather supper dish. To make it, start with a cup of sour cream, or yogurt, if you happen to be dieting, stir in a tablespoon of fresh lemon juice, and when ready to serve but not *very* much sooner because the cucumbers have a great tendency to give up their watery content and dilute the cream, add a cup or more of thinly sliced or chopped fresh, crisp cucumber, and one or two teaspoons of finely minced green herbs such as dill, parsley, chives or mint.

The one other thing that can be done with an exceptionally large fish, is to cut it in cross-sections, making “steaks,” which are usually broiled with a basting of butter, and served with lemon and a sprinkling of minced parsley or chive.

It is seldom useful to marinate the smaller fish which are best pan-fried. But any other fish, in the whole state, cut into steaks or filleted can be marinated before cooking. It should be kept in mind, however, that the flavors of the marinade will impregnate the flesh, and because of its delicacy, the characteristic flavor of the fish can be overpowered rather quickly. Unlike meat which can be left in a marinade for lengthy periods, fish need be marinated only a very short time.

#### Lemon Marinade

½ cup olive oil  
5 Tbs. fresh lemon juice  
½ tsp. dry mustard  
1 clove of garlic, crushed  
Freshly ground black pepper  
2 tsp. anchovy paste  
Finely chopped fresh parsley

To cook, lay the fish on a bed of parsley and onion slices. Heat the oven to 500 degrees and bake or broil as best suits the fish, basting with the marinade as needed.

The above is a typically Greek treatment of fish, I am told. Please note that the recipe does not advise soaking the fish in the marinade—only using it for basting during the cooking process. Fish has always been a favorite food in Greece. With the exception of lamb, more fish is eaten there than any other meat, so it follows that they probably know what they are talking about when they give directions for preparing it. For myself, however, I limit the use of this marinade to freshwater fish. These often seem to me to have a “ponddy” taste which the lemon eliminates.



Edited by ANN PILCHER

### Northern Virginia School Begins Habitat Program



Photo by Eric W. Satterlee

Planting ceremonies in connection with the newly established wildlife feed plot at Vienna, Virginia's, Cedar Lane Elementary school were supervised by Mrs. Mary Pace, left, Cedar Lane principal; Mike Flagg, center, Student Council president; and Fairfax County Game Warden R. G. Holdaway. In the background are seen a portion of the students who participated in the preparation of the ground and planting of the game bird mix.

The students of Cedar Lane Elementary school in Vienna, Virginia, have begun a program of wildlife habitat improvement similar to the programs currently being carried out by hundreds of farmers and rural landowners in Virginia. Participation by Cedar Lane in a program of this nature is unique in view of the fact that Vienna is not rural and is located in the middle of Fairfax County, fastest growing county in the United States.

The Habitat Improvement Program had its beginning in Virginia back in 1948 as the Commission of Game and Inland Fisheries' Farm Game Program. This was an effort to increase the supply of small game on private lands through the improvement of habitat. The basic concept of this highly successful program has changed only slightly over the years. This change involved the substitution of seed for actual plants which

80 4-H'ers attending Junior Camp Farrar at Virginia Beach from June 29-July 4 completed the four-hour hunter safety course of instruction presented by Douglas L. Parr, Dinwiddie Extension Service aide, who was assisted by junior leaders. The campers came from Dinwiddie, Prince George, and Accomack counties.

were offered to early participants in the program.

It is this seed, commonly known as "Game Bird Mix," which students at Cedar Lane Elementary have planted in their newly developed area. Boundaries of the school playground consist of a thin band of trees on the east, and on the west adjacent to the feed plot, a rather dense band of fixed hardwoods and a variety of pine and cedar.

On "planting" day representatives of the various grades in the school turned out with a variety of tools in order to prepare the area for the seed. With resumption of school in the fall the students will be able to observe firsthand the results of their handiwork. For at that time the plants will be maturing and nearly ready for winter-long utilization by the abundance of wildlife which lives in the area.

—F. N. SATTERLEE  
Information Officer

### Musky To Fight Again



This 6 lb. 10 oz., 31 inch musky was returned to Lake Brittle after being photographed with angler John S. Bannister, Jr., son of the lake's concessionaire. His freshwater citation catch was taken on spinning rod.

### In All Sizes

Petersburger David Collins (left) took his lunker 11 lb. 4 oz. channel catfish from a private pond, while the cat string of 10-yr.-old Harry Marshall III of Charlottesville came from the Rivanna; the largest, a 4½ lb. 24 incher.

### 4-H Juniors at Camp Farrar



### Navajos Host Ecology and Environmental School

Three hundred youth and 50 leaders representing all major tribes in the United States attended the First Annual Environmental Education Encampment for American Indian Youth, July 26-August 1, 1970.

The intense, six-day leadership training program was held at Camp Asaayi, the Navajo Youth Camp, in northwestern New Mexico's Chuska Mountains on the Great Navajo Reservation. Programs designed to improve quality of America's natural resources were coordinated under the auspices of the National Council, Boy Scouts of America. The BSA has committed itself to provide the technology and resources, and looks forward to a lifetime of working hand in hand with Indian people to help change the ecological state of the nation, according to Otis O. Fuller, Boy Scouts of America director of American Indian Relationships.

### Varied Activities Express Outdoor Interest

Richmonder Ricky Lewis, featured previously on our page as owner and trainer of Thor, a sparrow hawk, continues his interest in natural science and the outdoors. His Christmas present, a telescope, came in handy in March for observing the eclipse. In the spring, a bass from a Hanover County pond provided additional fun for Rick, who cleaned, filleted, and cooked his catch himself.

Photos by Steve Csaky



# IF THERE'S A WILL

## A CONSERVATION PLAY IN ONE ACT FOR YOUTHFUL ACTORS

By CARSTEN AHRENS, *Pittsburgh*  
*Retired Ranger Naturalist, National Park Service*

**SCENE:** We are on a mountain top, black against an intensely blue sky. There is a dome in the rear center, and a smaller dome on either side of the summit. The mountain then flattens out briefly before dropping abruptly away.

As the curtain rises, Youth enters; he carries books on a strap. He climbs along the skyline to the top of the center dome and becomes a part of the silhouette against the sky.

**YOUTH:** I'm Youth . . . They're more of us alive  
Than all the oldsters over twenty-five!

If we'd been born when the world was new—  
When knights were tireless and true,  
We'd be out seeking wrongs to right,  
Rivers to ford . . . dragons to fight.  
Knights were all heroes—more or less,  
There were always damsels in distress.

Now, we're surrounded by easy ways.  
Life is a series of easy days.  
News? Travel? Warmth? Lunch?  
Just a sequence of buttons to punch!  
We shun philosophies—brook no creeds;  
A computer satisfies our needs.  
Adventures are over; we're at a loss . . .  
No more rivers for us to cross . . .  
There's nothing new to understand:  
We're already at home in the Promised land.  
Our generation is bored to tears . . .  
What this Age needs are new frontiers!

The Spirit of Rivers enters (a girl in swimsuit). Lights come up. The silhouette of the mountain disappears.

**YOUTH:** . . . What . . . Who . . .

**S. OF R.** I'm the Spirit of Rivers, but I guess  
I'm surely your damsel in distress.  
If you really wish to right a wrong,  
Help me recover my River Song.

**YOUTH** (first flippant, then embarrassed, then serious)  
Lost your song!—Well, I'll be bound,  
We'll put an ad in the "Lost and Found."  
. . . Now I'm being silly. Explain that bit,  
And whatever you've lost, we'll recover it.

**S. OF R.** Into my waters man continually spills,  
Wastes from his homes, mines, factories, and mills.  
Each stream is becoming an ugly thing,  
And I can't help remembering  
When brooks ran sparkling and crystal clear  
And high in their banks throughout the year.  
My streams are dying but flow on and on  
Poisoning the fish they come upon.  
It's a serious problem and though you are clever,  
It's not one to be solved by pulling a lever.  
If your Age wants a problem, there's one here:  
Make the clean-up of rivers your new frontier!

**YOUTH:** We love to sail, on water skis, skim,  
Angle for fish, scuba dive, swim;  
Somehow there just must be a solution  
Of putting an end to smelly pollution.

Spirit of Rivers climbs left dome. Spirit of the Land enters (a boy in overalls).

**YOUTH:** Hello . . . Are you someone in distress, too?

**S. OF L.** I am the soil, the rocks, the loam,  
One-fourth of the globe that man calls home.  
Here billions of people in such a small space  
Giddily whirl around in space.  
Too small for the masses who hunger for meat,  
For the millions who cry for rice and wheat.

And should all this soil be carried to sea,  
There wouldn't be a gull or chickadee,  
. . . Just a world of water endlessly,  
. . . Just a lifeless waste of monotony.  
Gone would be beggar, peasant, tycoon,  
. . . Just a soaring neap tide to follow the moon.

Soil should be guarded carefully,  
Anchored by roots of grass and tree.  
Plants should cover slope and ledge  
Down to the water's very edge.  
So when winds howl everywhere,  
Soil won't be lifted high in air;  
So when rains pound, sand and clay  
Particles won't be washed away.  
Of all resources . . . coal, metals, oil,  
None is so precious as simple soil.

(Continued on page 24)

**If There's a Will** (Continued from page 23)

If your Age wants a problem, there's one here:  
Make the saving of topsoil your frontier!

YOUTH: I thought earth just dirt. My mother gets bugs  
Whenever I track it on her rugs.  
Yet one can't measure its life-giving worth;  
I guess it's the most precious stuff on earth.

Spirit of the Land withdraws to left stage. Spirit of Air enters (a girl dressed with many panels which the breeze from a hidden fan keeps in motion).

YOUTH: What! Someone else in trouble?

S. OF A. I am the air, the winds that blow,  
Restless I am, I continue to flow.  
Once I was clean as a baby's smiles,  
You could look through me for miles and miles.  
Then man tainted the breeze beyond all hope  
By the making of products like paper and soap.  
His factories have soaring chimneys that rise  
And puff out cinders and soot in the skies;  
For though you travel miles from town  
The spewed-forth particles circle down;  
Odors, dusts, fumes form a trail,  
A dread combination. One hates to inhale.  
Now national rivalry makes the bad worse:  
Atomic fallout . . . the ultimate curse.  
If your Age wants a problem, there's one here:  
Make atmosphere clean-up your frontier!

YOUTH: "Oh, beautiful for spacious skies," we sing,  
While fumes and grey smog cause our eyes to sting.  
Our skies were once as lovely as that hymn.  
Our 'progress' stains their brilliance, makes them dim.

Spirit of Air climbs to the right dome. Spirit of Wilderness enters (a boy dressed in the fringed buckskins of an early American scout).

YOUTH: Yes, sir, who are you?

S. OF W. I'm that wondrous, far-off wilderness spot  
That civilization happily forgot,  
Where a solitaire sings, and loons still call,  
And a pristine peace lies over all.

I'm an uninhabited mountainside,  
An untrammelled beach by the ebbing tide,  
A tundra that hasn't had a tax,  
A forest that hasn't known an ax,  
Places where the lynx and the wolverine roam,  
Eeries that eagles still call home,  
Mountain meadows that have never been mowed,  
Tree-line tarns where no boat has been rowed.

For his sanity, man needs a place  
To be with nature, far from the race  
Of his hectic twentieth century life  
With its accent on hurry, clamor, strife.  
He must, now and then, let the world go by,  
Be alone with the sun, rain, wind, and sky.

Let's keep lovely places like holy grails,  
Inaccessible save by trails;  
Keep out concrete strips and rings,  
Keep out all motor driven things.

There we'll SEE hues of flowers and birds  
And rainbows by the waterfall;  
HEAR the music and the magic words  
Of a singing brook or a meadowlark's call.  
FEEL the textures of bark, leaf, and wood,  
Of feathers, and petals, one by one,  
TASTE wild strawberries, sweet and good,  
Blueberries warm in the summer sun;  
SMELL the perfume of flowers of May,  
The ripe fruit aroma of an autumn day.

If your Age wants a problem, there's one here:  
Make oases of wilderness your frontier!

Spirit of Wilderness moves to right rear. Youth comes down to the footlights.

YOUTH (to audience)

Who said life is empty of derring-do?  
He was surely mistaken, and I'm telling you  
I would not want to be a knight,  
But a scientist rather to end the plight  
Caused by the pollutions of water and air,  
The losing of topsoil everywhere.  
Somehow we have to learn the worth  
Of the creatures that share with man the earth.  
To set aside wilderness must be man's goal . . .  
To revive his spirit, renew his soul.  
It's not enough to blame the past,  
We've got to change things: NOW and fast!  
The oldsters won't do it—they'll just fuss,  
So come on Youth, it's up to us!

Pupils carrying 50 state-labeled, triangular pennants (white with red state names, red with blue state names, and blue with white state names) leave their seats, from various parts of the auditorium where they have been sitting unobtrusively, and join Youth on the stage. He climbs to the summit. If there are fewer than 50 pupils, each will carry two or more pennants so that the state names can be read by those in the audience.

YOUTH AND PUPILS (chanted or sung)

We'll work and pray  
For that wonderful way:  
Conservation's Way of Life!  
We'll save our topsoil  
Our metals and oil,  
Find escape from noise and strife.  
Our air will be sure and our waters run clear,  
And we'll share our country with the oak and deer.  
We'll work and pray  
For that wonderful way:  
Conservation's Way of Life.

As they repeat the chant (or song), the stage darkens and the five principals and the heads and banners of the pupils appear in silhouette against the bright blue sky, as the curtain falls.



Edited by HARRY GILLAM

### Tremendous Striper String



This tremendous string of rockfish and other assorted whoppers was taken by Toney Spraker, left, of Salem and Paul Dalton, right, of Roanoke during a single night's fishing above the dam on Buggs Island Lake. One of the fish, a 16½ pounder, bore a tag indicating that it had been caught and tagged by fisheries biologists while on the annual spawning run near Brookneal.

### Paper Company Pledges to Help Save Rare Woodpecker

Private industries are more often found getting the blame for the status of endangered wildlife species than credit for helping save them, but International Paper Company has modified its cutting practices on southern pine woodlands with resulting sacrifice of some profit to help save the red-cockaded woodpecker. The bird was classified as "endangered" by the U.S. Fish and Wildlife Service in 1969.

The small black and white woodpecker nests only in century-old pines afflicted with a fungus disease called "red heart." This soft core apparently aids the woodpecker in drilling holes for its nest. It then punctures the bark around the entrance, creating a ring of sticky sap presumably to discourage predators. When this type of tree is cut from an area the red-cockaded woodpeckers disappear.

The company policy now is to preserve the nesting trees when found along with a buffer of other trees to retain a protective atmosphere. On one tract of land near Georgetown, S. C., 60 marked nesting trees have been saved along with 200 acres of surrounding timber as a protective zone. Nesting trees are now under I-P protection in South Carolina, Mississippi, Arkansas, Alabama, Texas and Georgia.

### Hunter Interest in Woodcock Increases

The American woodcock seems to be increasing in popularity as a game bird in most parts of its range, according to a U. S. Fish and Wildlife Service report on the status of the American woodcock presented at the Migratory Upland Game Bird Regulations meeting in Washington. Estimates of woodcock killed in the United States indicated a 10 percent or better increase in the past 3 years. Answers given on questionnaires sent to hunters in various surveys indicate that more and more persons are seeking the woodcock specifically rather than bagging it incidentally to hunting other species.

Virginia's latest hunter survey indicates that there are something less than 5,000 woodcock hunters in the state who average 7 trips and bag about 5 birds each during the season. Woodcock numbers generally in the Eastern Management Unit are on a gradual upward trend, according to counts of singing males during the breeding season. Virginia routes have indicated a relatively low density of woodcock in the state, but the productivity of birds bagged in Virginia last fall was the highest in the Eastern Unit.

### Flathead Cat



Fourteen-year-old Paul Combs of Cleveland, Virginia, caught this 20 pound 3 ounce flathead cat from the Clinch River on a trotline baited with crayfish. The big fish measured 36 inches in length and 20 inches in girth.

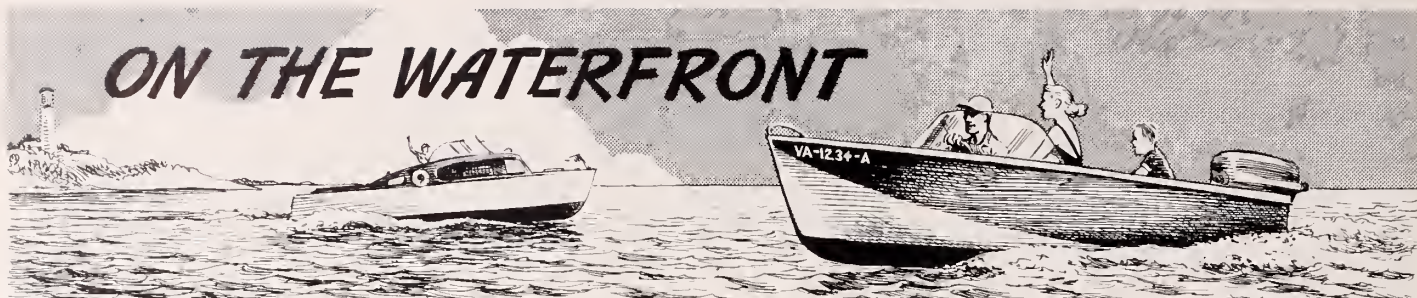
### Northern Virginia Bass



Howard Courts landed this nice 5 pound bass from a private pond in Prince William County. Courts is from Manassas.

### Counties Receive Share of Timber Sales

Fifteen Virginia counties will soon receive checks totalling \$7,506.50 as their share of receipts for timber sold from Game Commission Wildlife Management Areas located within the counties during the 1969-70 fiscal year. Some 2,419,300 board feet were cut from 11 areas, largely as a wildlife management measure to increase browse production and create openings. About half was harvested as pulpwood, with the rest going as sawtimber, rails and posts. The net income to the Commission was \$30,026.10, 25% of which is returned to the counties in lieu of taxes on these state owned lands. Individual county payments were as follows: Alleghany, \$5.00; Amelia, \$3.50; Augusta \$301.75; Bath, \$843.10; Greene, \$2,565.22; Highland, \$180.17; Madison, \$241.76; Patrick, \$77.08; Powhatan, \$25.00; Roanoke, \$412.63; Rockbridge, \$319.31; Rockingham, \$2,275.00; Russell, \$61.66; Smyth, \$151.50; Washington, \$43.82. The remaining funds are used by the Game Commission to finance wildlife management activities on these properties.



Edited by JIM KERRICK

### **Boat Owners Advised Not to Use DDT in Antifouling Paint**

The Ecology-Pollution Department of the Division of Applied Marine Science and Ocean Engineering at VIMS continues to receive reports of watermen mixing DDT with copper antifouling paint for use on boat bottoms to control scurf, borers (worms) and barnacles. This is an extremely dangerous practice because DDT is one of the most toxic pollutants that can be put in water. Further, its value in protecting boat bottoms has never been proven. It may, in fact, do more harm than good since the addition of DDT may change the characteristics of the paint and cause it to flake off, exposing bare wood to the infestation of worms.

### **Camera Captures Fun**

Summer is traditionally a time for picture taking, and for the boating enthusiast photography offers a plus.

Regardless of the type of boating activities you may participate in, with a camera along you can double your enjoyment. There is an endless variety of camera outfits to suit your needs, from the Instamatics for almost foolproof snapshots to the shutter bug's 35-mm single reflex camera with interchangeable lenses.

But no matter what type of camera you have, get out and use it. Become thoroughly familiar with the camera and film so that the operation is easy, smooth and takes no extra time or effort.

Frequent use will not only provide you with a wealth of memories, but will also give you a feeling for photography and help you develop a sense of composition. What you include in each picture and how you frame the shot is the real key to outstanding photography.

Good pictures just don't happen, they take some planning and a little bit of thought. That doesn't mean you should pose all your pictures; but conversely, you shouldn't shoot all haphazard candid shots.

Perhaps you are watching your children having a ball diving from your

boat. But don't click the shutter until you have watched them for a moment and can "see" a picture. Maybe your daughter has an interesting expression on her face every time she surfaces. After you see the picture, frame it. Decide how much background you want to include and how close you want to get. Your daughter's face is probably the best part of the shot, so move in close.

Perhaps you want a picture of a party aboard your boat, but everyone is spread out in a way that you can't get the desired shot. Have them move closer together, but let them continue what they are doing. It's unnecessary to pose them in a group looking at the camera saying "cheese." Strive for pictures as natural looking as possible.

Keep in mind the major points of good photography: range, background and center of action. Range indicates how close you are to your subject. Almost without exception, the amateur photographer is afraid to really move in. The results of "long range photography" are usually disappointing. What you wanted to show is barely visible. Next time you're ready to snap the shutter, take two steps forward and then two more. You'll be surprised and pleased by the results.

Background is another vital factor in good photography. An otherwise good shot can be ruined by a tree "growing" out of someone's head. The best advice is keep it simple. Avoid the chaotic background that distracts the eye of the viewer.

Every picture should have a center of action! The viewer should immediately see this when he looks at the shot. Don't be a victim of the all or nothing approach where you include too many people, objects and activities in a single shot. It's far better to take several pictures, each one concentrating on one specific subject.

### **Run Engine Dry After Each Use**

One of the best and easiest ways to prolong outboard engine life, is to run the engine dry after use. Instead of leaving the carburetor and fuel lines full of

gasoline, simply disconnect the fuel line where it connects to the engine, and let the engine run until the gas is used up—usually no more than a minute or so. This will insure that the next time the motor is used the mixture coming in will be fresh and clean.

Gasoline is notoriously unstable, and breaks down chemically in a very short time. By running fuel out of the system you are assured of fuel which will fire easily and perform well, rather than a mixture which has lost most of its potency and may be depositing lead and sludge throughout the engine.

### **Loading Trailer**

One of the best places to carry bulky gear when trailering your boat to the water is in the boat itself. Remember, though, that as much care should be taken in loading this gear as you would take if the boat were in the water.

Distribute the load evenly and towards the bow, placing more weight on the trailer tongue. Too much weight in the stern will cause your trailer to sway and could lead to perilous travel. Make sure that the load is tied down or securely braced so that it will not slide to the rear when you accelerate.

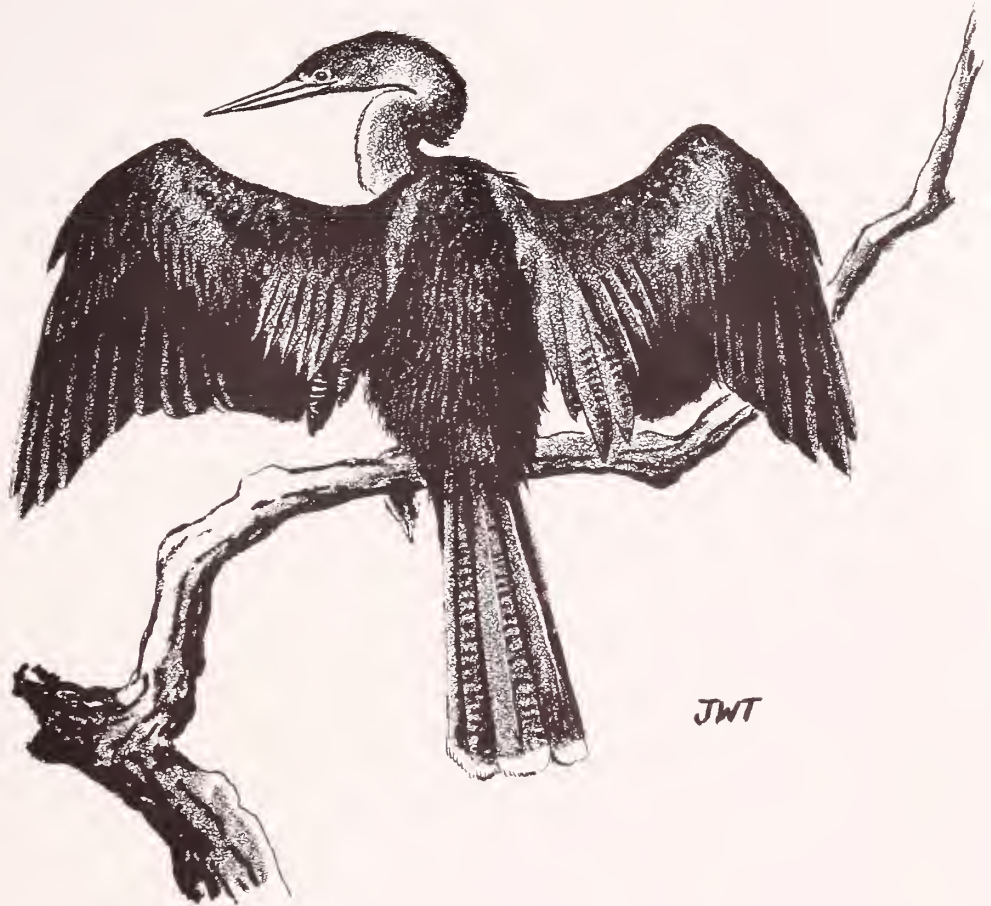
### **Watch That Stern**

Unlike an automobile, the back end of a boat responds first to a turn of the steering wheel. Keep this in mind when pulling away from the pier. Many boats and piers bear scars because the driver forgot that the stern swings in response to a turn. Either push the boat away from the pier before accelerating, or leave the pier at a slight angle until clear.

### **Check Drain Plug**

When your boat is up on its trailer in the backyard, it's always a good idea to open the drain plug before the transom so that rainwater will not accumulate. On the same note, there's nothing more depressing than to launch the boat perfectly, and then watch as it slowly sinks because you forgot to replace the drain plug.

Bird  
of  
the  
Month:



## Water-turkey

By DR. J. J. MURRAY  
Lexington

THE water-turkey is a bird of many names. Often it is just called Anhinga, from its scientific name, *Anhinga anhinga leucogaster*. Sometimes, from its long twisting neck, it is known as snake-bird. Water-turkey is the name most commonly used. By whatever name it is called, it is an interesting creature.

This bird occurs in the tropics around the world. There are only two species in the Anhinga family. Our form ranges from the Dismal Swamp, across to southern Illinois, and south. The other variety nests in a wide area of the Old World, in Africa south of the Sahara, in southern Asia, and on into Australia and New Zealand. There are nesting records for North Carolina, but I know of none for Virginia, although the bird wanders into our state.

The common name, water-turkey, is not a good one, for the bird has little resemblance to a turkey. Snake-bird is more appropriate, but it is much better simply to call it an Anhinga.

The male is black, but streaked with white. The streaking is heavy on the back and wing converts. There is a greenish reflection on the back of the bird. The female is like the male, but is more brownish, with a paler breast.

Except for poor taking off and landing, it is a good flyer. It is wonderful at soaring.

The Anhinga is about three feet in length, from the tip of the bill to the end of the tail. The most noticeable features are the long neck, which gives the bird its name of "snake bird," and the long tail.

This bird nests in groups of swampy places, not far from water. In *Birds of North Carolina*, by Pearson and the Brimleys, a nest is described, located on the Orton plantation below Wilmington. It contained four heavily incubated eggs. This is a normal number, although a nest may have as few as three or as many as six eggs.

Roger Tory Peterson, in his *A Field Guide to the Birds*, wrote that it is possible for a beginner to confuse this bird with the cormorant.

# \$3,600 in prizes for you

## 24TH ANNUAL WILDLIFE ESSAY CONTEST

SEPT. 8, 1970 - JAN. 15, 1971

### SUBJECT:

## WILDLIFE'S FUTURE WITH THE EXPANDING HUMAN POPULATION



ASK YOUR TEACHER TO  
ENTER YOUR SCHOOL NOW

### RULES

1. Students from all Virginia schools, grades 5-12 inclusive, are eligible.
2. Essays must be submitted through the schools participating. To be eligible, schools must submit an official entry card to receive materials.
3. Each essay submitted must indicate in the upper right hand corner: County, City, School, School Address, Principal, Grade, Name.
4. High school seniors competing for a scholarship must submit a completed scholarship form, obtainable from contest headquarters, attached to their essays.
5. Essays should not exceed 750 words.
6. Essays will be judged on the basis of originality, effort, grammar, expression and grasp of the subject. Final judging will be made by a panel of judges, representing the Commission of Game and Inland Fisheries, the Virginia Division of the Izaak Walton League of America, and the Virginia State Department of Education.
7. All essays must be sent prepaid or delivered to specified addresses and postmarked not later than January 15, 1971. For specific details see "Instruction Sheet to Teacher" found in the materials packet.
8. School awards will be made for 100 percent student participation.

### PRIZES

- 1 High School Senior Conservation Scholarship \$1000.00.
- 1 High School Senior Conservation Scholarship \$400.00.
- 8 Grand Prize Awards, \$50.00 each, one to each eligible grade.
- 8 Second Prizes, \$25.00 each, one to each eligible grade.
- 24 Third Prizes, \$15.00 each, three to each eligible grade.
- 24 Honorable Mention Prizes, \$10.00 each, three to each eligible grade.
- Special Mention Prizes, \$5.00 each, divided among eligible grades in proportion to response.

### School Awards.

The Scholarship Winners and the Eight Grand Prize Winners will come to Richmond as guests of honor of the sponsors and will have their awards presented to them by the Governor. Others will be given their awards in their schools.

Sponsored By  
THE VIRGINIA COMMISSION OF GAME  
AND INLAND FISHERIES  
THE VIRGINIA DIVISION OF THE IZAAK WALTON  
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